WHAT YOU MAKE DEPENDS ON WHERE YOU LIVE:

College Earnings Across States and Metropolitan Areas

By John V. Winters, Ph.D.

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Foreword and Executive Summary by
Amber M. Northern and Michael J. Petrilli

THOMAS B. FORDHAM INSTITUTE
ADVANCING EDUCATIONAL EXCELLENCE

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Foreword

By Amber M. Northern and Michael J. Petrilli

'It feels like a war zone': As more of them die, grocery workers increasingly fear showing up at work.

So read the heart-wrenching March 16th headline in the *Washington Post*'s business section. The story told of fifty-one-year old Doug Preszler, a cashier at a regional supermarket in eastern Iowa who was struggling to overcome his fear of going to work. "I've been way more anxious this week," he said. "They've started telling people, 'Go to the grocery store as little as possible.' And yet I'm going there every day."

Surreal. That's the word all of us are using to describe the times we find ourselves in. Few could have imagined that a plague would envelop the globe and shut down life as we know it. The COVID-19 crisis has cruelly reminded us not only of the fragility of human life but also of the critical role of frontline service providers—not only healthcare workers and first responders—in a pandemic.

It has also reminded us of the chasms in our economy and society, many of them caused by fault lines in our educational attainment. That's not just because the white-collar jobs that come with obtaining a college degree tend to pay more and are more secure when the economy tanks but also because those jobs can be accomplished more easily from the safety of home. Yet "remote work" is not an option for grocery store workers like Mr. Preszler and the thousands of other service-sector employees who risk getting sick every day for a modest paycheck.

The current crisis thus yields another cautionary tale about the perils of entering the workforce with nothing but a high school diploma. But does it also mean that everyone needs a four-year college degree? That those of us involved in K–12 education should tell all our young charges they would be wise to go "to and through" college? And that we should build our high schools around that singular mission?

The answer, of course, is no. In the real world, young people need not make a binary choice between four-year college or no college. In between are multiple options, including all manner of industry credentials, certificates, and two-year degrees, any of which may provide buffering—economic and otherwise—against hardship during troubled times and open various career doors during better times.

Indeed, for several years now, we at the Thomas B. Fordham Institute have pushed back against the "college for all" gospel—at least when that doctrine fixates on bachelor's degrees. It started when one of us researched and edited the volume *Education for Upward Mobility* and encountered reams of evidence showing positive life outcomes—in the labor market and beyond—associated

with high-quality career and technical education (CTE) in high school, as well as industry credentials and two-year technical degrees thereafter. We added to this literature with our 2016 study *Career and Technical Education in High School: Does it Improve Student Outcomes?*, which found that students with greater exposure to CTE were more likely to graduate from high school, enroll in a two-year college, be employed, and earn higher wages.

It's true that innumerable studies demonstrate a significant "college earnings premium" from four-year degrees. But it's also true that people tend to get paid more with an industry credential or two-year technical degree than with just a high school diploma, especially in certain fields. Also important is that not everyone *wants* to get a bachelor's degree or to work a white-collar office job. There's ample reason to tell young people who may be more interested in a trade or a technical career to go that route, rather than enroll in an academic degree program that is apt to yield frustration, debt, and regret.

It struck us that this would be even truer in places where the cost of living is low and the cost of college high. We surmised that workers in some parts of the country can do just about as well with industry credentials or two-year degrees as with bachelor's degrees. After all, previous research found that associate of science degrees in some medical and apprenticeship programs generate higher median earnings than do bachelor's degrees in liberal arts and humanities programs.

So we went looking for a study that computed the college earnings premium by state and across metro areas. We found bits and pieces but nothing comprehensive, so we decided to plunge in ourselves.

No one was better prepared to help us than John Winters, associate professor of economics at Iowa State University. Much of Dr. Winters's research pertains to regional and urban economics, with recent studies examining how college enrollment and choice of major impacts location decisions, as well as how earnings by college major affect migration rates. We were thrilled when he agreed to undertake the analysis we had in mind.

Winters used individual-level data from the American Community Survey (ACS), which includes annual income, employment, and demographic information for a representative sample of the United States population. His primary analysis focused on how college earnings premiums vary across states and metropolitan areas, as well as by metro size and degree of urbanization. We encourage you to dig in for the entire set of findings. See also the profiles and online interactive figures for average earnings by education level for your own state and its large metro areas.

Winters's primary finding is—as we knew—that bachelor's degree holders strongly outearn workers with just high school diplomas. That's true everywhere in the nation and is no surprise. What is more surprising is that in nearly every state, bachelor's degree holders strongly outearn workers with associate degrees, too: they make at least 25 percent more in all but three rural states—North Dakota, Alaska, and Vermont, all of whose economies tend to rely heavily on natural resources.

Yet Winters's analysis also reveals significant variation across the country. College earnings premiums are substantially greater in large cities and urbanized areas—as we hypothesized. For instance, among the largest metro areas (populations over 500,000), the three with the largest earnings premiums (for

a bachelor's versus associate degree) are the New York City metro area, southern Connecticut near New York City, and Brevard County, Florida, which is home to the Kennedy Space Center. The larger the metro area, the greater the premium to higher education. Bachelor's degree holders in greater New York City earn roughly 70 percent more than those with an associate degree ($125,123 versus $73,617).

Winters makes sense of this pattern as follows:

> *The results are consistent with rising concerns that workers with less education struggle to keep up with their more educated counterparts. Competition for housing and other services in big cities drives up prices and further threatens the economic security of the least educated. Although this report does not debate the merits of specific policy proposals, the large college earnings premiums in most large metro areas have clear implications for young people who want to live in those areas in the future: College education is, on average, a very good investment and perhaps necessary for a comfortable standard of living in many big cities. Young people who want to live in a big city should strongly consider going to college and completing at least a bachelor's degree.*
>
> *For workers in small MSAs, a college education, on average, appears to be a good investment, but a four-year degree seems less of a necessity in small MSAs than very large ones. Individuals who are apprehensive about costly investments in higher education may find living in smaller MSAs (or rural areas) a better match with their skills.*

We heartily agree. In fact, we shouldn't just ask high school students what they want to be when they grow up; we should also ask them *where they want to live*. In other words, teenagers should take geography into account when they make decisions about whether and what kind of higher education to pursue.

We're not the first to offer this advice. Recent research from the American Enterprise Institute finds that workers who never went to college earn less in denser areas after the cost of housing is accounted for. Richard Florida's work on geographic inequality reaches a similarly somber conclusion: "Once we factor in huge differences in housing costs between expensive cities and the rest, members of the working and service classes actually have little to gain financially from living in expensive cities, despite the fact that these places may offer slightly higher wages or more job opportunities."

That means if some young people are squeamish about the cost of a four-year college degree or, equally important, are unsure about pursuing a white-collar job, they may be better off in a smaller city or rural area—although there, too, it matters what particular skills and credentials they possess. Obviously, some fields are more lucrative than others. For example, graduates with associate degrees in electrical engineering have median annual earnings of about $60,000 to $80,000 a year, compared to those with bachelor's degrees in interior design, who earn a median salary of roughly $40,000 to $60,000. Associate degrees in nursing and law enforcement also generate good middle-class earnings.

The encouraging news is that many states are recognizing the importance of providing students with better information to plan their lives after high school. Several enterprising states are introducing Right to Know initiatives that provide high schoolers with information about that state's in-demand and/or

promising careers, including average wages and common degree requirements, as well as the average cost of college and student loan payments. States are also coming together to define what a high-quality nondegree credential looks like.

Also welcome is that there are multiple cities across the nation where individuals with an associate degree can afford to buy a median-priced home, taxes and all. Take Pittsburgh, where such individuals earn an average of $57,081 (see Table ES-5) and homeowners need $36,581 in salary to afford a median-priced home ($152,000). Likewise, those with associate degrees in Oklahoma City, Cleveland, Louisville, Kansas City, and a number of other cities can afford to buy median-priced homes (that said, workers must have the ability to move to some of these places).

The coronavirus won't be with us forever. We will defeat it. Still, 2020 will long be remembered as the year when lives were upended—some tragically lost, some mercifully recovered, and some merely inconvenienced.

But let's also remember that those facing some of the greatest challenges amid the pandemic and economic downturn are the service sector, the non-college-educated workers in large metro areas who are on the wrong side of the largest college earnings premiums and who face exorbitant housing costs. They are the ones most likely to be out of work or working on the front lines at the risk of getting sick.

Many of our colleagues in the education-reform movement have internalized these realities, considering how many of us live in the coastal, "creative class" meccas ourselves, which also means we see the hardship faced by young people without four-year degrees up front and personal. So the "college for all" impulse is understandable. But let's not forget that in much of America, there are highways to middle-income lifestyles whose routes don't pass through leafy college campuses. Our high schools should take this fact into account and offer students quality pathways into apprenticeships and technical postsecondary programs, not just academic ones.

Yes, what you make depends on what you know and what credentials you carry. But let's not forget that it also depends on where you live.

Executive Summary

This study examines how the "college earnings premium" (CEP)—the difference in average earnings between workers with and without college education—varies across the United States. Specifically, it compares across cities, states, and rural areas the mean earnings of workers with bachelor's degrees to those with associate degrees, with some college, and/or with high school diplomas. Iowa State University's John Winters uses individual-level data for the years 2015 through 2017 from the American Community Survey (ACS), which includes annual income, employment, and demographic information for a representative sample of the United States population. He examines three key questions:

1. How do college earnings premiums vary across states and metropolitan areas?
2. How do earnings and college earnings premiums vary by size of metropolitan area and degree of urbanization?
3. How do college earnings premiums vary by race and ethnicity?

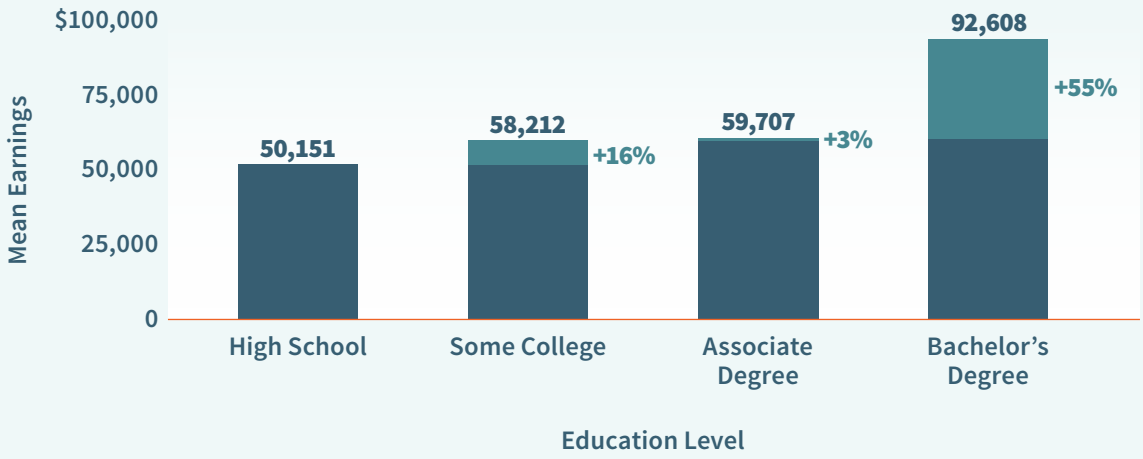
What makes this analysis different from previous studies is its emphasis on geographic location. Although individuals with more education typically have higher average earnings regardless of location, the magnitudes of these differences can vary substantially across geographic areas.

The report yields five key findings.

FINDING 1: Nationally, there are clear differences in earnings by education level, with bachelor's degree holders strongly outearning workers with less education.

High school graduates have national mean earnings of $50,151, while those with some college average $58,212, which is 16.1 percent higher (Figure ES-1). An associate degree increases mean earnings further to $59,707, a 19.1 percent premium relative to high school graduates. The national mean for bachelor's degree graduates is $92,608, an 84.7 percent premium relative to high school graduates.

Figure ES-1. Nationally, bachelor's degree holders strongly outearn workers with less education.



Note: Based on the author's calculations from the ACS. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The percentage change in teal notes the difference from the next-highest level of education in the figure.

FINDING 2: In every state, bachelor's degree holders strongly outearn workers with associate degrees, with a more than 25 percent earnings advantage in all but three states: North Dakota, Alaska, and Vermont.

The top ten states with the biggest earnings premiums by percentage are the District of Columbia (where workers with bachelor's degrees outearn those with just an associate degree by 78.6 percent), New York, Georgia, Connecticut, Virginia, New Jersey, North Carolina, Illinois, Colorado, and California (Table ES-1).

The bottom ten states (not shown) are North Dakota (where workers with bachelor's degrees outearn those with just an associate degree by 14.8 percent), Alaska, Vermont, Wyoming, South Dakota, Montana, New Mexico, West Virginia, Oklahoma, and Mississippi—a group dominated by rural states with economies dependent on natural resources.

Table ES-1. In D.C. and New York, workers with bachelor's degrees outearn those with associate degrees by more than 70 percent.

STATE	Bachelor's Degree Mean Earnings	Associate Degree Mean Earnings	Percentage Earnings Difference
District of Columbia	$114,706	$64,221	78.6%
New York	110,867	64,806	71.1%
Georgia	90,952	54,799	66.0%
Connecticut	118,454	71,594	65.5%
Virginia	98,225	59,643	64.7%
New Jersey	119,789	72,908	64.3%
North Carolina	83,363	52,325	59.3%
Illinois	98,563	62,266	58.3%
Colorado	92,777	59,923	54.8%
California	108,932	70,376	54.8%
National	**92,608**	**59,707**	**55.1%**

Note: Based on the author's calculations from the ACS. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S.

FINDING 3: The bachelor's degree (versus high school diploma) premium varies widely across states, from around 20 percent to more than 100 percent.

New York tops the list of states with the biggest earnings premium for bachelor's degrees relative to high school diplomas: a 103.3 percent earnings difference (Table ES-2). Georgia, California, the District of Columbia, New Jersey, Connecticut, Virginia, North Carolina, Illinois, and Texas round out the top ten. These states generally include some of the nation's most populous and prosperous metro areas, and the large college earnings premium in these areas is consistent with higher overall levels of inequality.

The bachelor's degree premium is lowest in Wyoming, with a difference of 21.3 percent (not shown). North Dakota, Alaska, South Dakota, Montana, West Virginia, Iowa, Mississippi, Vermont, and Hawaii round out the bottom ten. These states are mostly rural, have relatively small populations, and tend to have economies heavily driven by natural resources such as oil, gas, and coal, as well as agriculture.

Table ES-2. Workers with bachelor's degrees in New York and Georgia earn more than double what those with only high school diplomas earn.

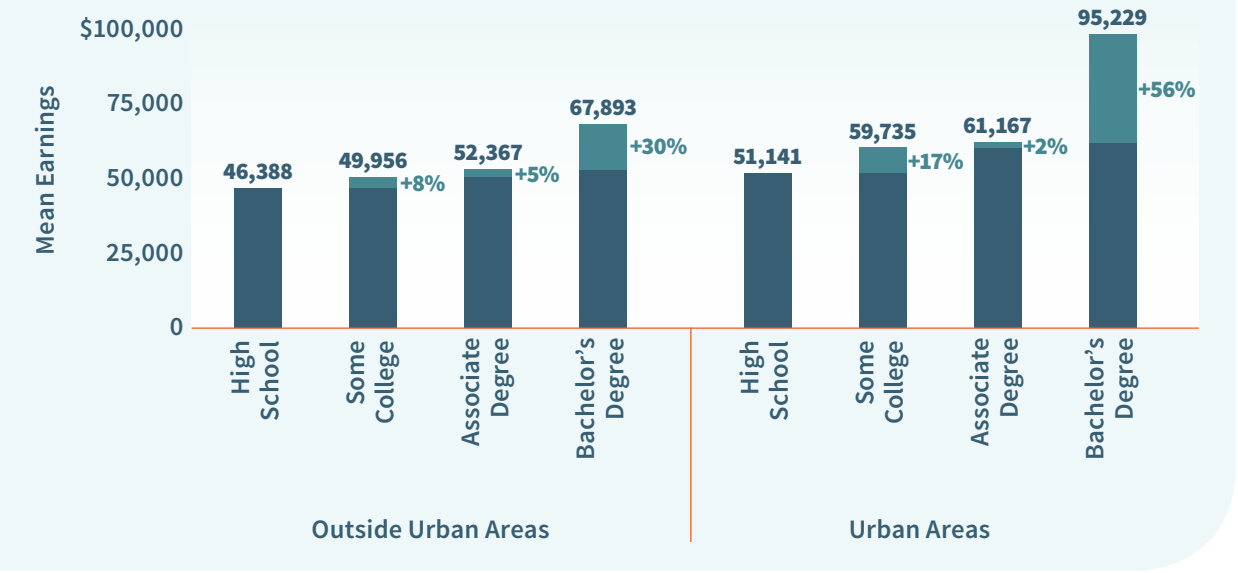
STATE	Bachelor's Degree Mean Earnings	High School Diploma Mean Earnings	Percentage Earnings Difference
New York	$110,867	$54,526	103.3%
Georgia	90,952	45,247	101.0%
California	108,932	55,158	97.5%
District of Columbia	114,706	58,119	97.4%
New Jersey	119,789	60,715	97.3%
Connecticut	118,454	60,352	96.3%
Virginia	98,225	50,581	94.2%
North Carolina	83,363	43,924	89.8%
Illinois	98,563	52,144	89.0%
Texas	93,256	49,857	87.0%
National	**92,608**	**50,151**	**84.7%**

Note: Based on the author's calculations from the ACS. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S.

FINDING 4: College earnings premiums are substantially greater in larger cities and more urbanized areas.

The estimated return to higher education is lower in rural areas outside metropolitan statistical areas (MSAs) than in urban areas inside MSAs (Figure ES-2). Bachelor's degree holders in non-MSAs have mean earnings of $67,893, a 46.4 percent premium compared to those with only high school diplomas and a 29.6 percent premium relative to workers with associate degrees. These bachelor's degree premiums are substantially lower than those for urban areas, which are 86.2 percent (compared to a high school diploma) and 55.7 percent (compared to an associate degree).

Figure ES-2. Workers at all education levels earn more in urban areas, but college earnings premiums are also considerably higher there.



Note: Based on the author's calculations from the ACS. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. "Urban areas" are those inside MSAs, while "outside urban areas" are external to MSAs. The percentage change in teal indicates the difference from the next-highest level of education in the figure.

We find a similar variation with the size of metro areas: the larger the metro area, the greater the premium to higher education. Table ES-3 shows ten large MSAs (those with population over 500,000), with the largest earnings premiums for a bachelor's degree relative to an associate degree. Bridgeport-Stamford-Norwalk, CT, comes in first, with a premium of 99.4 percent.

Table ES-5 at the end of this executive summary shows mean earnings and college earnings premiums for 104 large MSAs, ranked by the percentage difference in earnings between a bachelor's degree and associate degree. Modesto, California, has the smallest earnings premium at just 19.6 percent.

Table ES-3. Large urban areas with the greatest college earnings premiums for bachelor's degrees (versus associate degrees) include the southern parts of Connecticut near New York City, the New York City area, and Brevard County, Florida, home to the Kennedy Space Center.

METROPOLITAN AREA	Bachelor's Degree Mean Earnings	Associate Degree Mean Earnings	Percentage Earnings Difference
Bridgeport-Stamford-Norwalk, CT	$166,463	$83,495	99.4%
Palm Bay–Melbourne–Titusville (Brevard County), FL	82,657	48,630	70.0%
New York–Newark–Jersey City, NY-NJ-PA	125,123	73,617	70.0%
Atlanta–Sandy Springs–Roswell, GA	98,402	58,442	68.4%
Chattanooga, TN-GA	84,163	51,160	64.5%
Charlotte-Concord-Gastonia, NC-SC	94,265	57,470	64.0%
San Francisco–Oakland–Hayward, CA	131,990	80,656	63.6%
Charleston–North Charleston, SC	82,319	50,760	62.2%
Orlando-Kissimmee-Sanford, FL	86,453	53,330	62.1%
Columbus, OH	92,506	57,483	60.9%
National	**92,608**	**59,707**	**55.1%**

Note: Based on the author's calculations from the ACS. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. Large MSAs are restricted to those with year 2010 population greater than 500,000.

FINDING 5: The college earnings premium varies by race and ethnicity, with larger premiums for white and Asian workers than other groups.

Nationally, Asian and white workers earn more at every education level than Hispanic and black workers, but they also have greater college earnings premiums (Table ES-4). The bachelor's versus associate degree premium is greatest for Asian workers (61.0 percent), while white workers have the second-highest premium (55.9 percent). Hispanic workers have the lowest bachelor's versus associate degree premium (36.7 percent), and the premium for black workers (38.2 percent) is also below the national average of 55.1 percent. The full report includes similar data by race and ethnicity for those states and metro areas with sufficient sample sizes.

Table ES-4. College earnings premiums are generally higher for Asian and white workers than for black and Hispanic workers.

Race/ Ethnicity	High School	Associate Degree	Bachelor's Degree	% Diff Associate–High School	% Diff Bachelor's–High School	% Diff Bachelor's–Associate
Asian	$47,544	$58,634	$94,420	23.3%	98.6%	61.0%
Black	40,596	47,981	66,324	18.2%	63.4%	38.2%
Hispanic	44,742	55,897	76,402	24.9%	70.8%	36.7%
White	52,861	62,128	96,869	17.5%	83.3%	55.9%
National	**50,151**	**59,707**	**92,608**	**19.1%**	**84.7%**	**55.1%**

Note: Based on the author's calculations from the ACS. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S.

Winters concludes by recommending that young people take geography into account when they make decisions about whether and what kind of higher education to pursue. Some types of higher education may not be a good investment for those who expect to live and work outside of metropolitan areas. That said, other benefits to higher education, such as reduced unemployment and improved health, may increase the overall value of it everywhere.

Table ES-5. Mean earnings and college earnings premiums for 104 large MSAs, sorted by BD-AD difference

CITY	High School	Associate Degree	Bachelor's Degree	% Diff AD–HS	% Diff BD-AD
Bridgeport-Stamford-Norwalk, CT	65,463	83,495	166,463	27.50%	99.40%
New York–Newark–Jersey City, NY-NJ-PA	61,084	73,617	125,123	20.50%	70.00%
Palm Bay–Melbourne–Titusville, FL	44,593	48,630	82,657	9.10%	70.00%
Atlanta–Sandy Springs–Roswell, GA	47,261	58,442	98,402	23.70%	68.40%
Chattanooga, TN-GA	46,052	51,160	84,163	11.10%	64.50%
Charlotte-Concord-Gastonia, NC-SC	47,335	57,470	94,265	21.40%	64.00%
San Francisco–Oakland–Hayward, CA	62,658	80,656	131,990	28.70%	63.60%
Charleston–North Charleston, SC	47,268	50,760	82,319	7.40%	62.20%
Orlando-Kissimmee-Sanford, FL	45,914	53,330	86,453	16.20%	62.10%
Columbus, OH	48,117	57,483	92,506	19.50%	60.90%
Jacksonville, FL	46,919	53,539	85,875	14.10%	60.40%
Raleigh, NC	49,533	58,664	93,998	18.40%	60.20%
Detroit-Warren-Dearborn, MI	50,605	60,892	96,452	20.30%	58.40%
Chicago-Naperville-Elgin, IL-IN-WI	54,967	65,995	104,318	20.10%	58.10%
Los Angeles–Long Beach–Anaheim, CA	52,756	69,409	109,737	31.60%	58.10%
Austin–Round Rock, TX	53,022	61,025	96,185	15.10%	57.60%
St. Louis, MO-IL	48,855	57,809	91,063	18.30%	57.50%
Boston-Cambridge-Newton, MA-NH	61,395	72,579	114,266	18.20%	57.40%
San Jose–Sunnyvale–Santa Clara, CA	60,676	89,871	141,276	48.10%	57.20%
Denver-Aurora-Lakewood, CO	56,722	64,408	101,112	13.50%	57.00%
Birmingham-Hoover, AL	48,554	54,833	85,871	12.90%	56.60%
Portland–South Portland, ME	48,548	54,498	85,333	12.30%	56.60%
Greensboro–High Point, NC	42,668	49,683	77,743	16.40%	56.50%
Washington-Arlington-Alexandria, DC-VA-MD-WV	62,034	74,653	116,815	20.30%	56.50%
Miami–Fort Lauderdale–West Palm Beach, FL	46,637	59,885	93,054	28.40%	55.40%
Houston–Woodlands–Sugar Land, TX	52,212	69,481	107,888	33.10%	55.30%
Cleveland-Elyria, OH	48,707	55,387	85,953	13.70%	55.20%
Memphis, TN-MS-AR	44,459	53,746	83,217	20.90%	54.80%
North Port–Sarasota–Bradenton, FL	45,324	54,750	84,686	20.80%	54.70%
Indianapolis-Carmel-Anderson, IN	49,287	56,338	87,074	14.30%	54.60%
Phoenix-Mesa-Scottsdale, AZ	50,863	59,511	91,939	17.00%	54.50%
San Diego–Carlsbad, CA	55,129	64,892	100,235	17.70%	54.50%
Dallas–Fort Worth–Arlington, TX	51,997	64,726	99,958	24.50%	54.40%
Philadelphia-Camden-Wilmington, PA-NJ-DE-MD	55,021	66,438	102,527	20.70%	54.30%
Nashville-Davidson–Murfreesboro–Franklin, TN	47,250	57,836	89,091	22.40%	54.00%
Richmond, VA	51,138	57,485	87,790	12.40%	52.70%

continued...

Table ES-5 *(continued)*. Mean earnings and college earnings premiums for 104 large MSAs, sorted by BD-AD difference

CITY	High School	Associate Degree	Bachelor's Degree	% Diff AD–HS	% Diff BD-AD
Oxnard–Thousand Oaks–Ventura, CA	61,151	73,251	111,813	19.80%	52.60%
Cincinnati, OH-KY-IN	49,155	61,108	93,135	24.30%	52.40%
Allentown-Bethlehem-Easton, PA-NJ	51,647	61,488	93,611	19.10%	52.20%
Provo-Orem, UT	59,599	62,245	94,356	4.40%	51.60%
Akron, OH	48,387	57,416	86,995	18.70%	51.50%
Greenville-Anderson-Mauldin, SC	43,425	53,316	80,770	22.80%	51.50%
Jackson, MS	45,275	47,380	71,618	4.60%	51.20%
Seattle-Tacoma-Bellevue, WA	63,870	72,280	108,303	13.20%	49.80%
Worcester, MA-CT	57,914	67,401	100,836	16.40%	49.60%
Minneapolis–St. Paul–Bloomington, MN-WI	53,502	65,715	98,244	22.80%	49.50%
Kansas City, MO-KS	48,697	59,078	88,119	21.30%	49.20%
Baltimore-Columbia-Towson, MD	55,577	67,398	100,491	21.30%	49.10%
Portland-Vancouver-Hillsboro, OR-WA	54,538	63,580	94,373	16.60%	48.40%
Dayton, OH	46,761	53,096	78,592	13.50%	48.00%
Pittsburgh, PA	50,642	57,081	84,359	12.70%	47.80%
Tampa–St. Petersburg–Clearwater, FL	47,133	57,667	84,920	22.30%	47.30%
Fresno, CA	51,556	60,345	88,811	17.00%	47.20%
Wichita, KS	46,410	53,635	78,933	15.60%	47.20%
Omaha–Council Bluffs, NE-IA	52,374	57,299	84,231	9.40%	47.00%
Oklahoma City, OK	47,176	54,473	79,860	15.50%	46.60%
Hartford–W. Hartford–E. Hartford, CT	61,811	70,697	103,515	14.40%	46.40%
Spokane–Spokane Valley, WA	49,629	51,176	74,896	3.10%	46.30%
Tucson, AZ	44,662	53,141	77,554	19.00%	45.90%
Winston-Salem, NC	43,933	54,769	79,698	24.70%	45.50%
Toledo, OH	50,347	58,093	84,387	15.40%	45.30%
Rochester, NY	49,730	58,251	84,550	17.10%	45.10%
Durham–Chapel Hill, NC	44,632	59,375	86,117	33.00%	45.00%
Knoxville, TN	44,462	53,608	77,612	20.60%	44.80%
Milwaukee–Waukesha–West Allis, WI	48,578	61,491	89,044	26.60%	44.80%
Des Moines–West Des Moines, IA	52,325	60,548	87,434	15.70%	44.40%
Las Vegas–Henderson–Paradise, NV	51,909	59,724	86,175	15.10%	44.30%
Providence-Warwick, RI-MA	57,427	64,309	92,653	12.00%	44.10%
Cape Coral–Fort Myers, FL	45,562	53,533	76,920	17.50%	43.70%
Louisville/Jefferson County, KY-IN	50,153	57,378	82,461	14.40%	43.70%
Colorado Springs, CO	50,751	53,167	75,857	4.80%	42.70%

continued...

Table ES-5 *(continued)*. Mean earnings and college earnings premiums for 104 large MSAs, sorted by BD-AD difference

CITY	High School	Associate Degree	Bachelor's Degree	% Diff AD–HS	% Diff BD-AD
Little Rock–North Little Rock–Conway, AR	46,846	55,095	77,994	17.60%	41.60%
Harrisburg-Carlisle, PA	45,435	63,198	89,338	39.10%	41.40%
Syracuse, NY	49,917	58,158	82,208	16.50%	41.40%
Ogden-Clearfield, UT	51,518	61,942	87,460	20.20%	41.20%
Youngstown-Warren-Boardman, OH-PA	45,078	52,683	73,975	16.90%	40.40%
New Orleans–Metairie, LA	46,681	58,230	81,635	24.70%	40.20%
Albany-Schenectady-Troy, NY	53,743	65,710	92,035	22.30%	40.10%
Buffalo–Cheektowaga–Niagara Falls, NY	49,856	58,242	80,859	16.80%	38.80%
Urban Honolulu, HI	55,476	60,880	84,405	9.70%	38.60%
Deltona–Daytona Beach–Ormond Beach, FL	44,954	52,009	72,002	15.70%	38.40%
Boise City, ID	45,004	59,897	82,784	33.10%	38.20%
Augusta–Richmond County, GA-SC	48,854	53,274	73,407	9.00%	37.80%
Grand Rapids–Wyoming, MI	48,218	60,013	82,682	24.50%	37.80%
Albuquerque, NM	41,543	53,952	73,652	29.90%	36.50%
Madison, WI	51,685	63,178	86,262	22.20%	36.50%
San Antonio–New Braunfels, TX	42,436	57,192	77,917	34.80%	36.20%
Lancaster, PA	53,892	63,805	86,678	18.40%	35.80%
Tulsa, OK	49,501	59,812	81,186	20.80%	35.70%
New Haven–Milford, CT	56,710	67,040	90,709	18.20%	35.30%
Columbia, SC	42,086	57,356	77,529	36.30%	35.20%
Virginia Beach–Norfolk–Newport News, VA-NC	48,645	58,068	77,327	19.40%	33.20%
Salt Lake City, UT	50,882	65,541	87,218	28.80%	33.10%
Sacramento–Roseville–Arden-Arcade, CA	55,751	71,635	94,453	28.50%	31.90%
Baton Rouge, LA	55,150	63,115	82,426	14.40%	30.60%
Bakersfield, CA	57,389	68,143	87,813	18.70%	28.90%
Riverside–San Bernardino–Ontario, CA	53,474	67,481	86,446	26.20%	28.10%
Stockton-Lodi, CA	58,738	72,368	92,177	23.20%	27.40%
McAllen-Edinburg-Mission, TX	44,506	53,640	68,215	20.50%	27.20%
Scranton–Wilkes-Barre–Hazleton, PA	47,844	57,880	73,600	21.00%	27.20%
El Paso, TX	41,303	49,657	62,421	20.20%	25.70%
Springfield, MA	55,502	67,191	83,344	21.10%	24.00%
Lakeland–Winter Haven, FL	42,891	55,294	66,570	28.90%	20.40%
Modesto, CA	55,857	67,343	80,572	20.60%	19.60%

Note: Based on the author's calculations from the ACS. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. Large MSAs are restricted to those with year 2010 population greater than 500,000.

Section I:

Introduction

Deciding whether to invest time and money in higher education is among the most important decisions that a young adult can make. Study after study confirms that workers with higher education earn higher average incomes than those with no higher education: In 2017, U.S. workers with at least a bachelor's degree had mean earnings more than double that of workers with a high school diploma or less.[1] This earnings gap has grown over time and is widely expected to continue to grow in coming decades. Young people today face enormous pressure to get more and more education and are often told that higher education is the path toward a rewarding career and happy life.

Although it's true that higher education is a good investment on average, it is neither necessary nor sufficient for obtaining a lucrative career. The returns to education depend on its quantity and quality in complicated ways. Factors such as experience, working conditions, field of study, institution, and location are often key determinants of earnings. Likewise, although a bachelor's or graduate degree is needed for some career paths, many workers may be well served to invest in acquiring technical skills via two-year degrees, certificate programs, apprenticeships, or on-the-job training.

Higher education also involves significant costs to both individuals and society. Tuition and fees are arguably the most visible costs of educational investments and have been rising considerably in recent years, burdening young people with growing levels of student debt. But other factors must be considered as well, including foregone earnings during the college years and the social and psychological costs of reduced connection with family and prior friends. Moreover, young adults must weigh whether obtaining a college education in a particular field will land them a well-paying job, which not only facilitates prompt student loan repayment in the short term but makes higher education a good long-term investment.

"[A]lthough individuals with more education typically have higher average earnings everywhere, the magnitudes of these differences can vary across geographic areas."

This study considers the benefits of higher education in the United States by comparing the average earnings of workers with different levels of education. Throughout this report, the percentage difference in mean earnings between workers with and without college education is referred to as a college earnings premium (CEP). The CEPs are computed for both bachelor's degrees and associate degrees relative to high school diplomas.[2]

What makes this analysis different from previous studies is its emphasis on geographic location. Consideration of geography is critical because, although individuals with more education typically have higher average earnings everywhere, the magnitudes of these differences can vary across geographic areas. For example, bachelor's degrees are likely good investments in big cities but perhaps are less so in smaller metropolitan areas or rural communities. Earning an associate degree—or even just a high school diploma—may be a better decision in some places.

This study examines three general questions:

1. How do CEPs vary across states and metropolitan areas?
2. How do earnings and CEPs vary by size of metropolitan area and degree of urbanization?
3. How do CEPs vary by race and ethnicity?

Note that both the decision to pursue higher education and where to live obviously depend on numerous factors, including one's personal preferences, level of academic preparation, and the direct and indirect costs that influence earnings (see "The relationship between education and earned income"). Thus, the estimated earnings premiums should not be interpreted as causal differences; rather, they simply illustrate differences in earnings that accrue across education levels and local areas. Our goal is to inform the broader discussion surrounding higher education and serve as a useful resource in helping young people interested in higher education make more informed decisions.[3]

Section II discusses the study's methodology, *Section III* presents the findings, *Section IV* offers implications for policymakers, and *Section V* includes state profiles with data on college wage premiums statewide and for the largest metropolitan areas.

The relationship between education and earned income

Standard economic theory contends that young people choose the education path that they believe will maximize their own well-being based on the various costs and benefits. The benefits depend on their expected enjoyment from studying the field and the kinds of employment opportunities that they expect upon completing their curriculum. Potential college students recognize that gaining more years of education is typically associated with higher average earnings but that obtaining these additional years comes at a significant cost. Tuition, fees, and textbooks are obvious expenses, but time, energy, and effort are also scarce. Individuals also have incomplete information and must form expectations based on the resources available to them.

Moreover, the average earnings gains from additional education are not solely due to education increasing individual productivity. Individuals differ in personality, social skills, and various dimensions of intelligence due to genetic dispositions; moreover, early life experiences also differ, including the nature of parental interactions, the quality of primary and secondary education, and other social influences. These attributes affect both labor-market productivity and the ability to succeed in higher education. Fairly or not, workers who have earned college degrees may be viewed as reasonably smart, conscientious, and compliant, meaning those degrees can help signal these positive qualities and assist employers in screening applicants.[4]

Higher education also likely provides benefits besides higher earnings.[5] Workers with more education tend to have lower unemployment rates, achieve better health outcomes, report higher life satisfaction, and are even more likely to be married, including to higher-income spouses. Because parents may pass on some of their knowledge and skills to their children via parent-child interactions, education creates intergenerational benefits, as well. Of course, some of these additional benefits may also be influenced by the factors above, but these improved life outcomes still suggest that the value of additional education extends beyond the paycheck.

Section II:

Methods

This study uses individual-level data from the American Community Survey (ACS), which includes annual income, employment, and demographic information for a representative sample of the United States population.[6] To increase sample sizes and improve estimate precision, the study uses three years of data (2015–17). The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born and reside in the U.S.[7] These are workers who are strongly attached to the U.S. labor market, which makes them more comparable when divided into groups. But it also means that, because they are generally in their peak earning years, the sample will have higher average earnings than would a broader sample that includes a wider age range and/or individuals working fewer hours or weeks.[8]

The primary outcome variable is annual earned income. This figure includes both wage and salary income for employees and self-employment income for proprietors. Earnings are adjusted for inflation using the Consumer Price Index (CPI) and converted to January 2019 dollars.

This report examines four main education groups based on highest level of schooling:[9]

- Individuals with a high school diploma but no college
- Individuals with some college but no degree
- Individuals with an associate degree
- Individuals with a bachelor's degree but no advanced degree

Mean earnings are presented throughout the report, although median earnings by education were explored as an alternative (see Appendix Table A1). For the national sample, median earnings are lower than mean earnings for each education group, and the CEP for bachelor's degrees relative to high school diplomas is also moderately lower using medians rather than means. Yet medians do not fully incorporate information throughout the income distribution and can be adversely influenced by respondent "heaping" at round numbers (for example, 50,000, 60,000, 70,000, and so on). This term refers to the tendency of respondents to report in units that are rounded (or heaped) and is particularly problematic when comparing subsamples (including states). Thus, the report focuses on mean earnings as the single most informative measure of earned income differences across education groups.

Analyses of earnings differences by race/ethnicity at the state level are excluded when the sample size for the specific racial/ethnic group is too small to yield accurate estimates in a given state. Specifically, the study sample must contain at the state level at least ninety workers in a specific racial/ethnic group for each of the three education groups considered (high school graduates, workers with associate degrees, and workers with bachelor's degrees).

Finally, note that the District of Columbia is included in state-level analyses.

Section III:

Findings

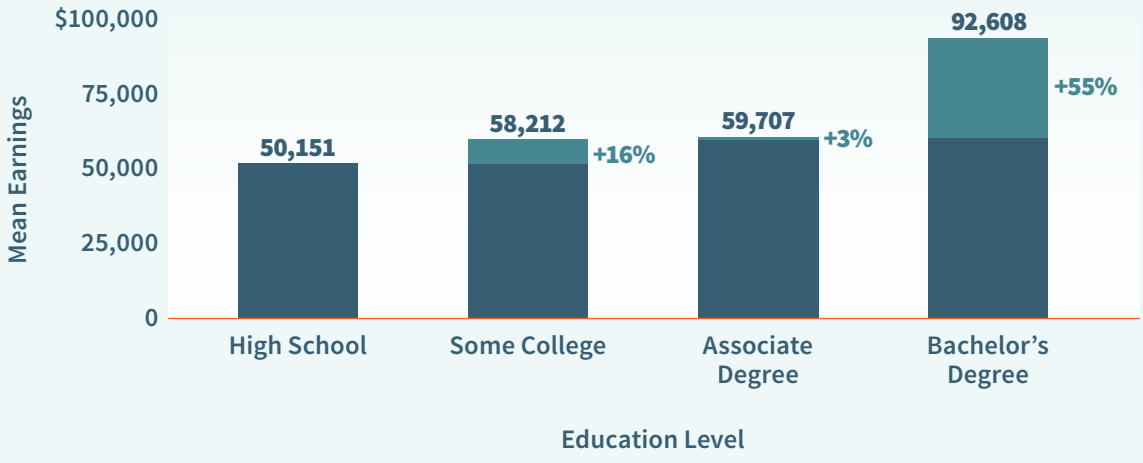
COLLEGE EARNINGS PREMIUMS ACROSS THE NATION

FINDING 1: Nationally, there are clear differences in earnings by education level, with bachelor's degree holders strongly outearning workers with less education.

National-level mean earnings by education level are shown in Figure 1. High school graduates have national mean earnings of $50,151, while having some college education increases that figure to $58,212, which is 16.1 percent higher than workers with a high school diploma but no college. An associate degree increases mean earnings further to $59,707, a 19.1 percent premium relative to high school graduates. The national mean for bachelor's degree graduates is $92,608, an 84.7 percent premium relative to high school graduates. Bachelor's degree holders earn 55.1 percent more than workers with associate degrees and 59.1 percent more than those with some college but no degree.

At face value, these national estimates indicate that higher education is, on average, a good investment. The premium for bachelor's degrees are particularly notable: Although they generally take four versus two years to complete, the earnings premium for bachelor's degrees relative to high school degrees (84.7 percent) is much more than double the premium for associate degrees (19.1 percent). However, there is considerable variation from national mean earnings across states and local areas. The rest of this report focuses on those differences.

Figure 1. Nationally, bachelor's degree holders strongly outearn workers with less education.



Note: Based on the author's calculations from the ACS. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The percentage change in teal notes the difference from the next-highest level of education in the figure.

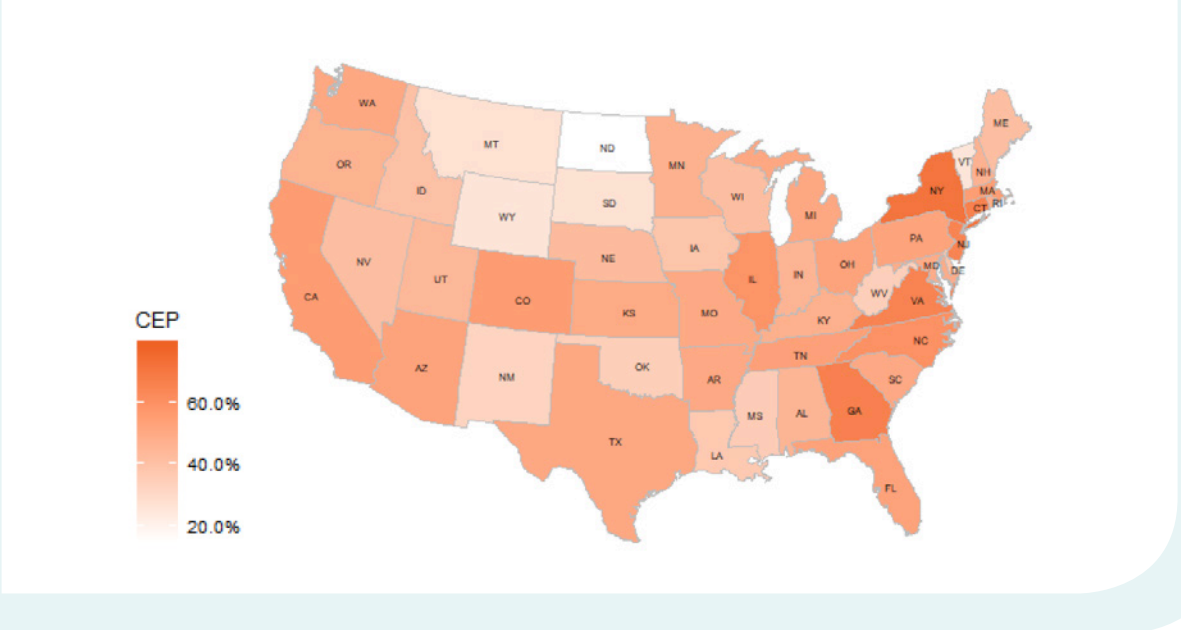
Note the small earnings difference between those with some college and those with associate degrees. Although it may seem that the latter would have a valuable credential demanding a higher wage on the labor market, the most popular associate degrees are in general subjects, such as "liberal arts" and "general studies."[10] Two-year degrees in these fields often do not signify accomplishment of discrete sets of skills or that a student may have persevered through difficult coursework, as a bachelor's degree might signify. Moreover, any of the groups, including the "some college" group, may include individuals who have earned industry credentials—some of which have real value in the labor market.[11]

COLLEGE EARNINGS PREMIUMS ACROSS STATES

FINDING 2: In every state, bachelor's degree holders strongly outearn workers with associate degrees, with a more than 25 percent earnings advantage in all but three states: North Dakota, Alaska, and Vermont.

Figure 2 maps the earnings premium for bachelor's degrees relative to associate degrees, while Tables 1 and 2 report the top and bottom ten states with the biggest earnings premiums by percentage. The District of Columbia tops the list in Table 1, where workers with bachelor's degrees outearn those with associate degrees by 78.6 percent. New York, Georgia, Connecticut, Virginia, New Jersey, North Carolina, Illinois, Colorado, and California round out the top ten.

Figure 2. In some jurisdictions—such as D.C., New York, and Georgia—the college earnings premium for obtaining a bachelor's degree versus an associate degree is much larger than in other states.



Note: Based on the author's calculations from the ACS. CEP refers to the college earnings premium. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. States with a higher premium are shaded darker, and states with a lower premium are shaded lighter.

Table 1. In D.C. and New York, workers with bachelor's degrees outearn those with associate degrees by more than 70 percent.

STATE	Bachelor's Degree Mean Earnings	Associate Degree Mean Earnings	Percentage Earnings Difference
District of Columbia	$114,706	$64,221	78.6%
New York	110,867	64,806	71.1%
Georgia	90,952	54,799	66.0%
Connecticut	118,454	71,594	65.5%
Virginia	98,225	59,643	64.7%
New Jersey	119,789	72,908	64.3%
North Carolina	83,363	52,325	59.3%
Illinois	98,563	62,266	58.3%
Colorado	92,777	59,923	54.8%
California	108,932	70,376	54.8%
National	**92,608**	**59,707**	**55.1%**

Note: Based on the author's calculations from the ACS. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S.

North Dakota and Alaska have some of the smallest differences (Table 2), where workers with bachelor's degrees outearn those with associate degrees by less than 20 percent. The bottom ten is a group dominated by rural states with economies dependent on natural resources, such as Vermont, Wyoming, South Dakota, Montana, New Mexico, West Virginia, Oklahoma, and Mississippi. See Appendix Tables A4 through A6 for additional state-level data,[12] including the mean CEPs for all fifty states and D.C.

Table 2. In North Dakota and Alaska, workers with bachelor's degrees outearn those with associate degrees by less than 20 percent.

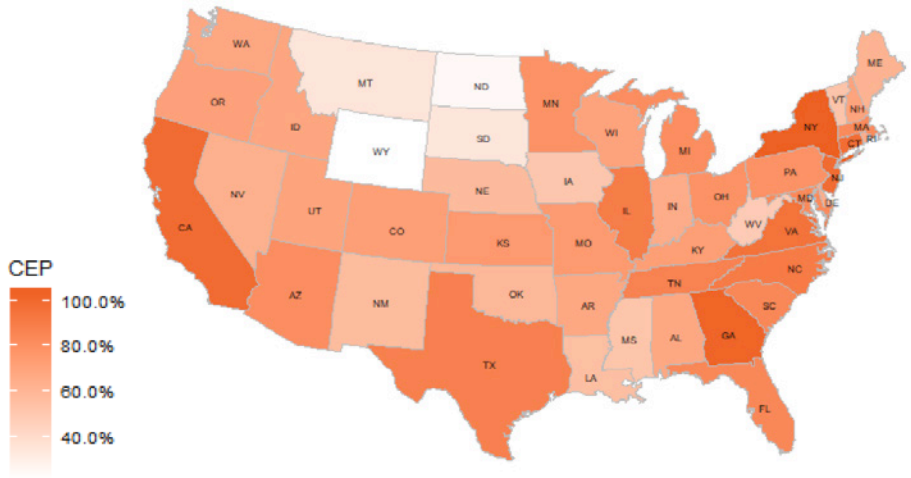
STATE	Bachelor's Degree Mean Earnings	Associate Degree Mean Earnings	Percentage Earnings Difference
North Dakota	$71,327	$62,146	14.8%
Alaska	82,307	70,539	16.7%
Vermont	73,750	59,112	24.8%
Wyoming	73,642	58,872	25.1%
South Dakota	69,053	54,605	26.5%
Montana	68,455	53,950	26.9%
New Mexico	69,470	52,677	31.9%
West Virginia	69,652	52,022	33.9%
Oklahoma	74,250	55,410	34.0%
Mississippi	66,225	49,041	35.0%
National	**92,608**	**59,707**	**55.1%**

Note: Based on the author's calculations from the ACS. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S.

FINDING 3: The bachelor's degree (versus high school diploma) premium varies widely across states, from around 20 percent to more than 100 percent.

Figure 3 maps differences across states in the CEP for bachelor's degrees relative to high school diplomas. There are clear differences across the country and even among neighboring states. New York, Georgia, California, the District of Columbia, and New Jersey have the highest earnings differences between workers with bachelor's degrees versus those with only high school diplomas.

Figure 3. New York, Georgia, California, the District of Columbia, and New Jersey have the highest earnings differences between workers with bachelor's degrees and those with only high school diplomas.



Note: Based on the author's calculations from the ACS. CEP refers to the college earnings premium. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. States with a higher premium are shaded darker, and states with a lower premium are shaded lighter.

Tables 3 and 4 provide greater specificity by reporting the top ten and bottom ten states for percentage earnings differences between bachelor's degree holders and high school graduates, as well as mean earnings for these groups. Notably, large earnings premiums can stem from especially high earnings for college graduates, particularly low earnings for high school graduates, or some combination. Likewise, small earnings premiums can reflect low earnings for college graduates, high earnings for high school graduates, or some combination.

New York tops the list of states in Table 3 with a 103.3 percent earnings difference between those with bachelor's degrees and high school diplomas. Georgia, California, the District of Columbia, and New Jersey round out the top five. Connecticut, Virginia, North Carolina, Illinois, and Texas assume positions six through ten.

Notably, the top ten states are not concentrated in one part of the country; there are clusters in the Northeast and Southeast, but California (Far West), Illinois (Great Lakes Region), and Texas (Southwest) make the top ten, as well. One commonality is that the states generally include some of the nation's most populous and thriving metropolitan areas; the large CEP in these areas is consistent with higher overall levels of inequality.

Table 3. Workers with bachelor's degrees in New York and Georgia earn more than double what those with only high school diplomas earn.

STATE	Bachelor's Degree Mean Earnings	High School Diploma Mean Earnings	Percentage Earnings Difference
New York	$110,867	$54,526	103.3%
Georgia	90,952	45,247	101.0%
California	108,932	55,158	97.5%
District of Columbia	114,706	58,119	97.4%
New Jersey	119,789	60,715	97.3%
Connecticut	118,454	60,352	96.3%
Virginia	98,225	50,581	94.2%
North Carolina	83,363	43,924	89.8%
Illinois	98,563	52,144	89.0%
Texas	93,256	49,857	87.0%
National	**92,608**	**50,151**	**84.7%**

Note: Based on the author's calculations from the ACS. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S.

The earnings premium for a bachelor's degree versus high school diploma is lowest in Wyoming, with a difference of only 21.3 percent (Table 4). North Dakota and Alaska are second and third lowest. Rounding out the bottom ten are South Dakota, Montana, West Virginia, Iowa, Mississippi, Vermont, and Hawaii. These states are mostly rural and have relatively small populations. They also tend to have economies driven heavily by natural resources, including oil, gas, coal, and agriculture. In particular, Wyoming, North Dakota, and Alaska all have significant oil and gas production—an industry that offers very high salaries for high-school-educated workers. And not surprisingly, these three states have especially high mean earnings for high school graduates, all well above the national average. At the same time, this trio has bachelor's degree mean earnings well below the national average.

Table 4. In Wyoming and North Dakota, the bachelor's degree premium (versus a high school diploma) is less than 25 percent.

STATE	Bachelor's Degree Mean Earnings	High School Diploma Mean Earnings	Percentage Earnings Difference
Wyoming	$73,642	$60,687	21.3%
North Dakota	71,327	57,381	24.3%
Alaska	82,307	64,015	28.6%
South Dakota	69,053	51,574	33.9%
Montana	68,455	50,906	34.5%
West Virginia	69,652	47,145	47.7%
Iowa	77,259	51,233	50.8%
Mississippi	66,225	43,735	51.4%
Vermont	73,750	48,667	51.5%
Hawaii	80,236	52,684	52.3%
National	**92,608**	**50,151**	**84.7%**

Note: Based on the author's calculations from the ACS. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S.

COLLEGE EARNINGS PREMIUMS BY URBANIZATION

FINDING 4: College earnings premiums are substantially greater in larger cities and more urbanized areas.

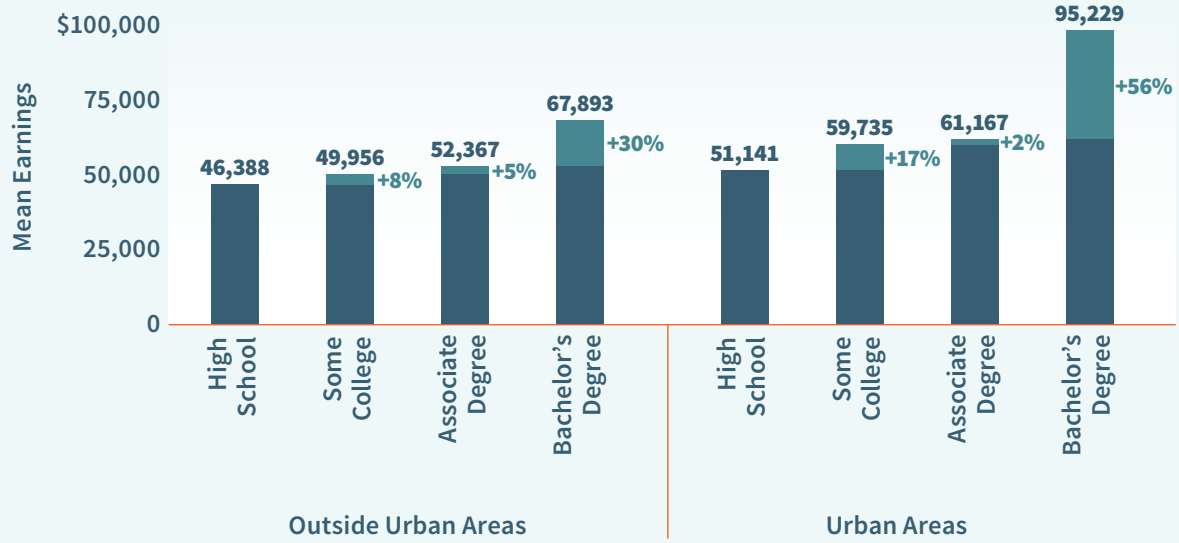
The prior analysis shows large and important differences in CEPs across states. This section demonstrates that higher returns to education go hand in hand with size of metropolitan area and greater urbanization.

We examine the relationship between the CEP and urbanization via varying levels of urbanization, including within metropolitan statistical areas (MSAs) versus outside them, by the size of the MSAs, and by the urban density of the largest MSAs. An MSA is defined by the U.S. Census Bureau as a principal city of at least fifty thousand people, along with its county and adjacent counties that are economically integrated via commuting flows.[13] The CEPs of workers in non-MSA (that is, rural) areas are also examined by region.

COLLEGE EARNINGS PREMIUMS INSIDE AND OUTSIDE OF URBAN AREAS

Figure 4 illustrates mean earnings by education for workers outside urban areas (that is, outside MSAs) on the left and for MSAs (urban areas) on the right. Mean earnings for high school graduates are $46,388 outside of urban areas and $51,141 in urban areas. Higher mean earnings in the latter are consistent with urban agglomeration increasing labor demand—that is, the concentration of people and firms in urban areas leads to better matching, information flows, and skill development that increases worker productivity and results in higher earnings.[14]

Figure 4. Workers at all education levels earn more in urban areas, but college earnings premiums are also considerably higher there.



Note: Based on the author's calculations from the ACS. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. "Urban areas" are those inside MSAs, while "outside urban areas" are external to MSAs. The percentage change in teal indicates the difference from the next-highest level of education in the figure.

As expected, mean earnings increase with additional education both inside and outside of urban areas. However, CEPs differ between them. Outside of urban areas, workers with some college have mean earnings of $49,956, a premium of 7.7 percent relative to high school graduates. Workers with an associate degree have mean earnings of $52,367 outside urban areas, a 12.9 percent increase over high school graduates. Finally, similarly located bachelor's degree holders have mean earnings of $67,893, a 46.4 percent premium compared to those with only high school diplomas and a 29.6 percent premium relative to workers with associate degrees.

Higher college earnings premiums in MSAs are consistent with the positive relationship between urbanization and higher education. Agglomeration makes all workers more productive, but it especially increases the productivity of college-educated workers. This pattern means that the

estimated return to higher education is lower outside of urban areas than in them.[15] Coupled with the higher cost of living in cities (see "How does the cost of living affect the college earnings premium?"), this finding implies that some types of higher education may not be a good investment for those who expect to live and work outside of metropolitan areas. That said, other benefits to higher education, such as reduced unemployment and improved health, may increase the overall value of it in many areas, including nonmetropolitan areas.

How does the cost of living affect the college earnings premium?

States obviously differ in their cost of living, but adjusting for this difference is more complicated than meets the eye. That's in part because individuals have differing needs and preferences for various goods and services, so one cannot measure the exact cost of living an individual faces. Moreover, higher housing prices often reflect better location-specific amenities such as nice weather, beautiful beaches, recreational opportunities, and access to cultural attractions such as museums, live entertainment, and diverse dining options. Simply adjusting for cost of living does not fully capture the benefits gleaned from these location-specific amenities—the "consumption" of which can also vary across education groups. Thus, our findings do not adjust for cost-of-living differences, and the report is primarily interested in CEPs, which are invariant to these adjustments.

All of that said, one can use average measures such as the Regional Price Parities (RPPs) produced by the U.S. Bureau of Economic Analysis (BEA) to adjust state mean earnings by the average cost of living. Doing so does not alter the CEPs because it applies the same adjustment factor to all workers in a state. Still, it is useful to examine how mean earnings for a particular education group, such as high school graduates, are affected by these changes.

Adjusted for cost of living, the five states with the highest mean earnings for high school graduates are Wyoming, North Dakota, Alaska, South Dakota, and Rhode Island (see Appendix Table A7). The top three all have significant employment in oil and gas and rank highly even without the cost-of-living adjustment. The bottom five states for high school graduates with cost-of-living adjustments are Hawaii, Florida, New York, Maine, and South Carolina. Hawaii and New York have the biggest drop in rank from the adjustment; they have relatively high mean earnings for high school graduates without the adjustment, but applying it pushes them to the bottom.

COLLEGE EARNINGS PREMIUMS IN RURAL AREAS

As indicated, the average earnings premiums for higher education in areas outside of MSAs (that is, rural areas) are well below corresponding premiums in MSAs, which warrants a closer look into narrower geographic areas. Unfortunately, sample-size limitations prevent us from rigorously examining rural areas state by state, but it is possible to examine eight regions, as defined by the Bureau of Economic Analysis (Figure 5). To see results for small MSAs by region—that is, areas with population less than 0.5 million—see Appendix Table A8.

Figure 5. Regional boundaries

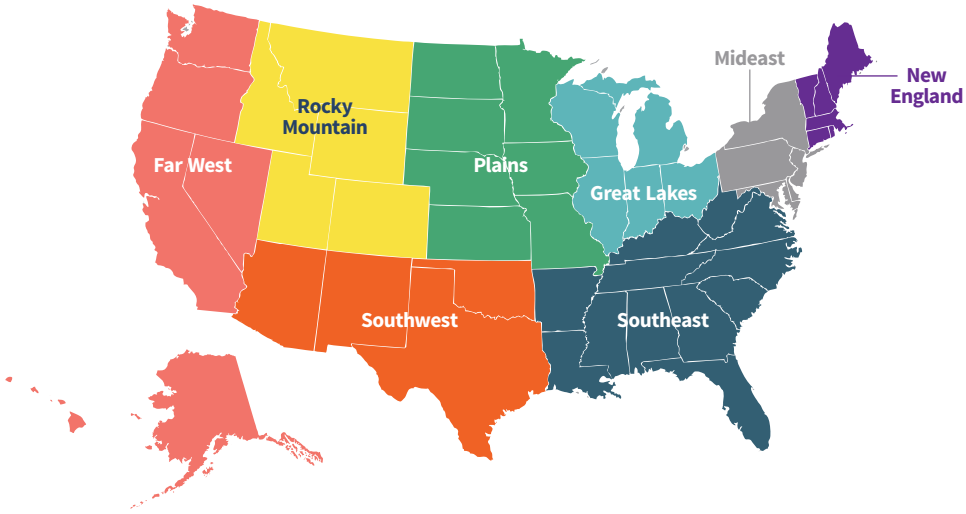
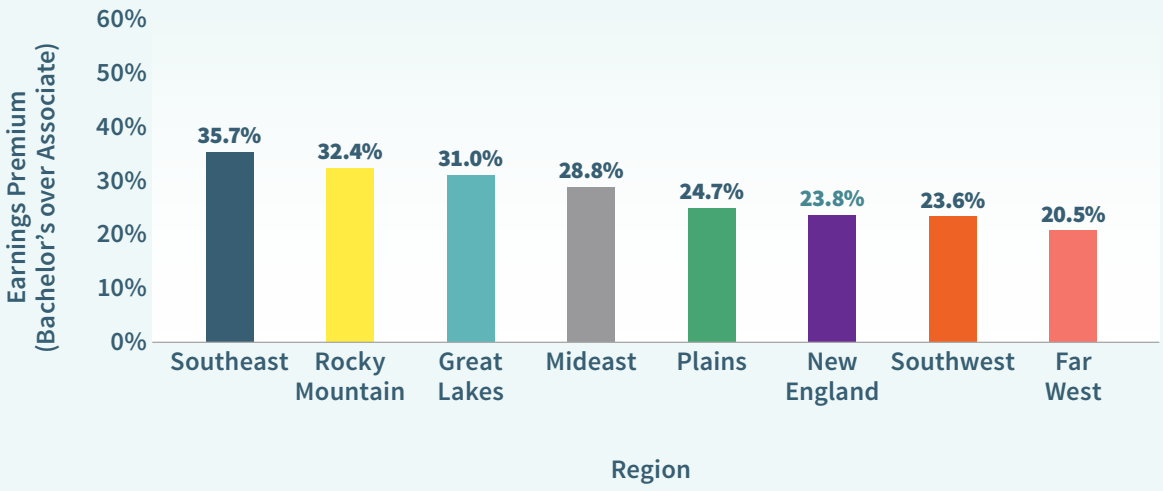


Figure 6 presents the bachelor's to associate earnings premiums by region for rural areas. The Southeast tops this list with a premium of 35.7 percent. The lowest premium for rural areas is in the Far West at 20.5 percent (see detailed data in Appendix Table A9).

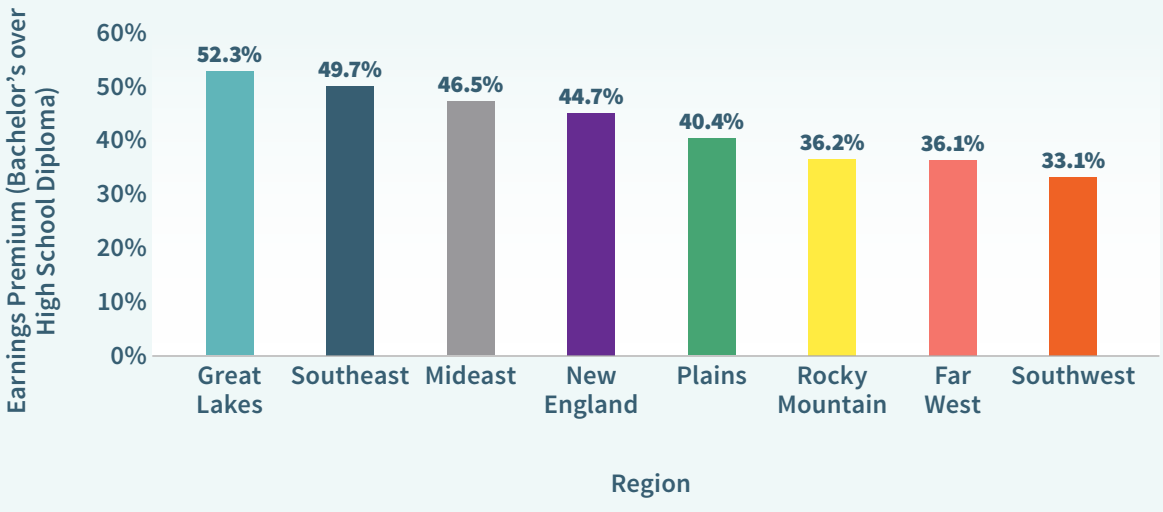
Figure 7 shows the rural CEP for bachelor's degrees relative to high school diplomas. There is substantial variation across BEA regions: The premium is 52.3 percent in the Great Lakes rural area but only 33.1 percent in the Southwest.

Figure 6. The rural college earnings premium for a bachelor's degree (versus an associate degree) is largest in the Southeast and smallest in the Far West.



Note: Based on the author's calculations from the ACS. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S.

Figure 7. The rural college earnings premium for a bachelor's degree (versus a high school diploma) is largest in the Great Lakes states and smallest in the Southwest states.



Note: Based on the author's calculations from the ACS. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S.

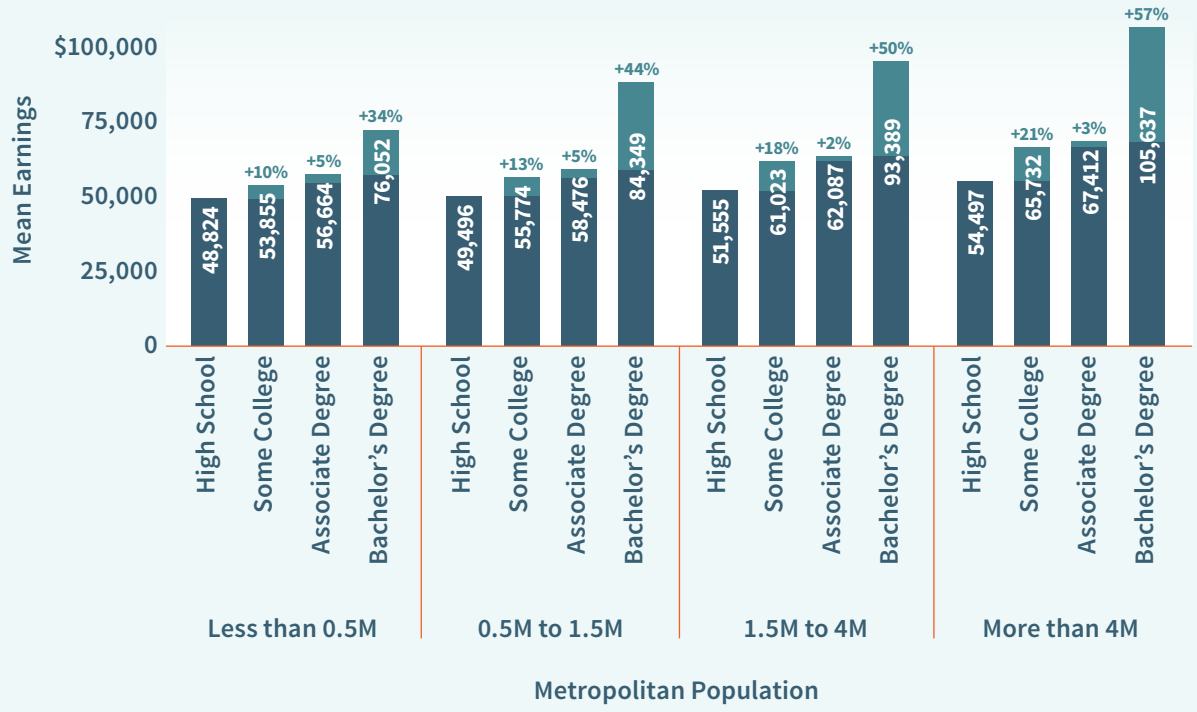
COLLEGE EARNINGS PREMIUMS ACROSS METROPOLITAN AREAS

We find a similar pattern when examining the size of metropolitan areas: the larger the metro area, the greater the premium to higher education. MSAs are divided into four groups based on year 2010 population:[16]

- Less than 0.5 million
- 0.5 million—1.5 million
- 1.5 million—4 million
- More than 4 million

Figure 8 shows that mean earnings increase with metropolitan area size for each education level. For example, the average earnings for high school graduates in the smallest MSAs is $48,824, but in the largest MSAs, high school graduates earn an average of $54,497. CEPs also increase with MSA size. The bachelor's premium versus associate degree premium ranges from 34.2 percent in the smallest MSAs to 56.7 percent in the largest MSAs. The bachelor's premium versus that of just a high school diploma is even greater, ranging from 55.8 percent in the smallest MSAs to 93.8 percent in the largest MSAs.[17]

Figure 8. The college earnings premium is greater in larger metropolitan areas than in smaller ones.



Note: Based on the author's calculations from the ACS. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The percentage change in teal notes the difference from the next-highest level of education in the figure.

In other words, while incomes rise with MSA population, the increases from working in large MSAs particularly accrue to college-educated workers, especially those with bachelor's degrees. Still, earnings premiums in small MSAs (population less than 0.5 million) are more similar to non-MSAs (that is, rural areas) than to very large MSAs.

The results are consistent with rising concerns that workers with less education struggle to keep up with their more educated counterparts. Competition for housing and other services in big cities drives up prices and further threatens the economic security of the least educated. Although this report does not debate the merits of specific policy proposals, the large CEP in most large metro areas has clear implications for young people who want to live in those areas in the future: College education is, on average, a very good investment and perhaps necessary for a comfortable standard of living in many big cities. Young people who want to live in a big city should strongly consider going to college and completing at least a bachelor's degree.

For workers in small MSAs, a college education, on average, appears to be a good investment, but a four-year degree seems less of a necessity in small MSAs than very large ones. Individuals who are apprehensive about costly investments in higher education may find living in smaller MSAs (or rural areas) a better match with their skills ("Recouping investments in higher education" discusses how the costs of higher education may play into these decisions).

Recouping investments in higher education

Though higher education typically provides significant benefits, it also has considerable costs, which have been rising in recent years. Tuition and fees vary substantially, even among in-state students at public institutions. In fact, the national average for in-state tuition and fees at public four-year colleges and universities was $10,230 for the 2018–19 academic year—and continues to rise dramatically.[18] Average in-district tuition and fees at two-year public colleges was substantially lower, at $3,660 for the 2018–19 academic year.[19]

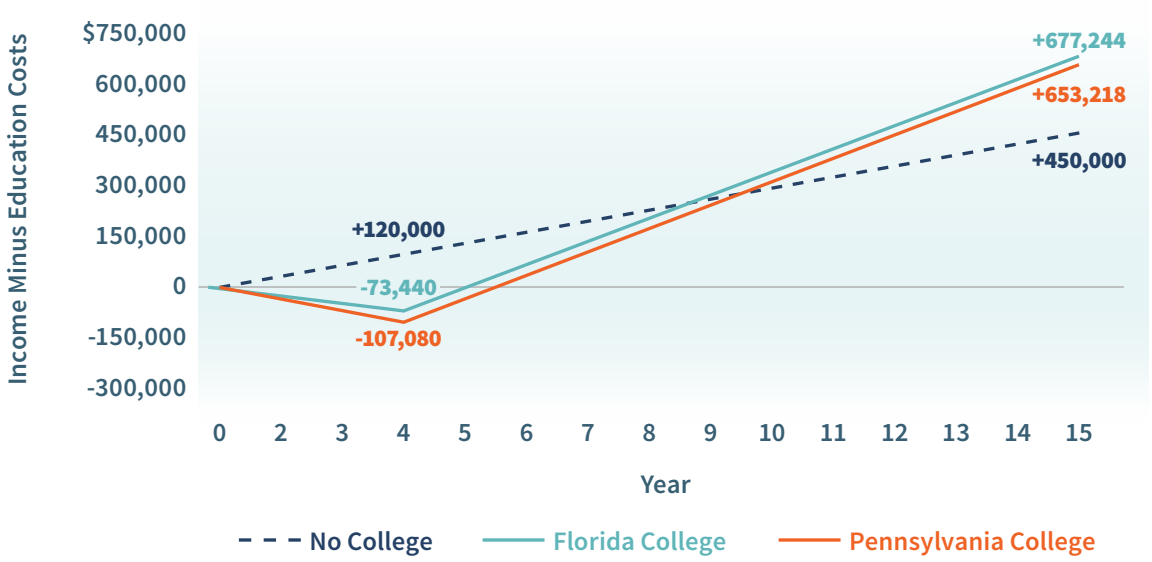
The cost of college, however, does not end with tuition and fees. Students also incur costs for room and board, textbooks and supplies, and lost earnings from reduced employment while in school. These additional costs can often exceed the costs of tuition and fees, depending on the circumstances of the student.

Figure 9 maps how long it will take workers to recoup the investment cost of obtaining a bachelor's degree in Florida and Pennsylvania.[20] For simplicity, suppose that annual costs while in college in both Florida and Pennsylvania are $2,000 for books and supplies, $10,000 for room and board, and $30,000 in lost earnings from reduced employment[21] (these are intended to be upper-bound estimates for typical in-state students at public institutions). The mean earnings difference between those with high school diplomas and bachelor's degrees is $38,244 in Florida and $39,118 in Pennsylvania (see Appendix Table A4).

In both states, students exceed their investment in higher education in less than six years. Moreover, although college goers tend to be financially behind their non-college-going peers for a few years, eleven years from graduation, an average Florida bachelor's degree holder would have earned enough additional income to offset both school and foregone employment costs (during the college years), while still earning more than $200,000 in additional income (Figure 10).

Recouping investments in higher education (continued)

Figure 9. On average, bachelor's degree holders will have earned enough eleven years from graduation to be substantially ahead of students who hold high school diplomas, even after paying for their education and making up for lost income during the college years.



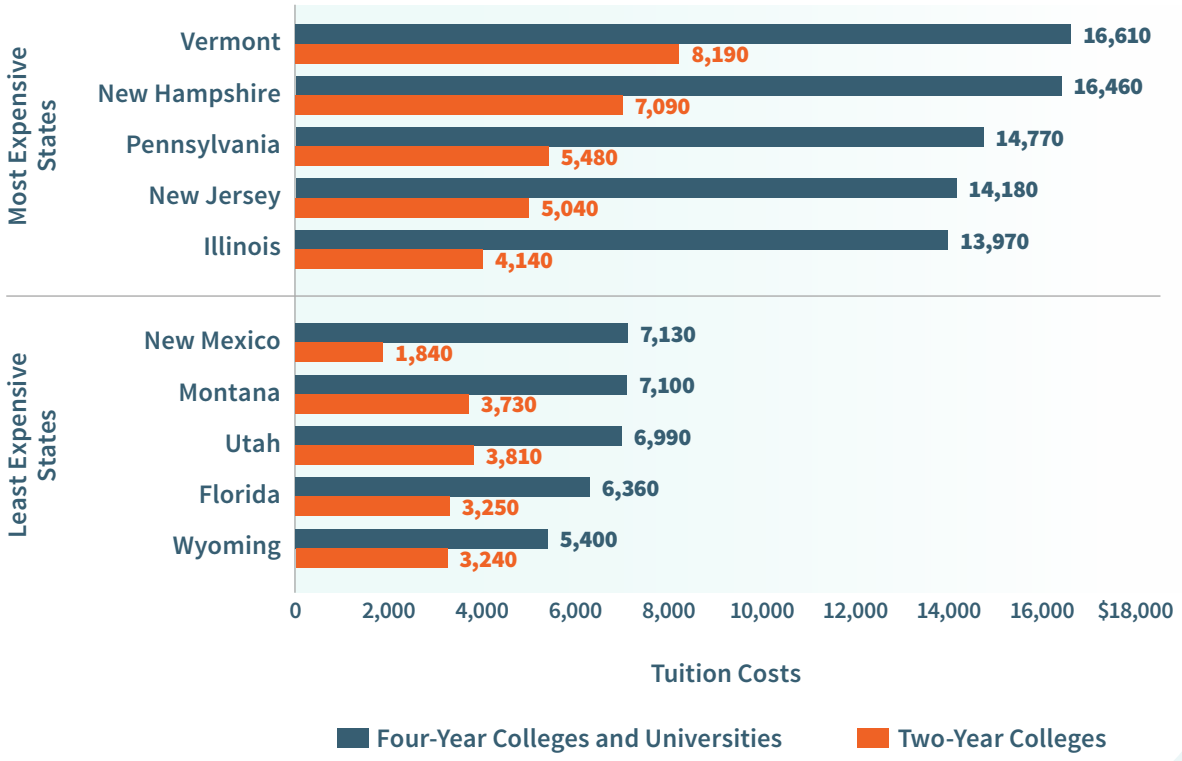
Note: For college-going students, assuming $10,000 per year in room and board, $2,000 per year in books and supplies, $6,360 in tuition at Florida four-year institutions, and $14,770 in tuition at Pennsylvania four-year institutions. Income is assumed to be $30,000 per working year, with a $38,244 premium for Florida bachelor's degree holders and a $39,118 premium for Pennsylvania bachelor's degree holders. The exact amount of time needed to recoup investments in higher education depend on many factors, including the specific school, location, and occupation, so this illustration should be interpreted with caution.

Yet Figure 10 shows that there are extreme differences in college tuition costs across states. Tuition at four-year institutions in the most expensive states is double or even triple that of the less expensive states, and the disparity can be even larger for two-year institutions.[22] Although these differences would seem to imply that the merits of getting a college degree would vary greatly, depending on tuition, in fact the large differences in tuition among the states are swamped by other costs.

Consider again Figure 9, which compares two states with very different costs for higher education. In Pennsylvania, average tuition at a four-year institution is the third-most expensive in the country at $14,770 per year, while Florida is one of the least expensive states to attend a four-year college, with tuition being just $6,360 per year. Florida students certainly pay less in tuition, and eleven years after graduation, they are nearly $25,000 ahead of their counterparts in Pennsylvania. But this difference is small compared to the difference between college-educated workers and those who continued without higher education. Eleven years after college graduation, workers who attended college in both states are more than $200,000 ahead of their counterparts with only high school diplomas.

Recouping investments in higher education (continued)

Figure 10. College tuition in the most expensive states is more than double that in the least expensive states.



Note: For college tuition information on all states, see Appendix Table A11.

Table 5 focuses on the twenty-five large MSAs (those with population over 500,000) with the largest earnings premiums for a bachelor's degree relative to an associate degree. Bridgeport-Stamford-Norwalk, CT, comes in first with a premium of 99.4 percent.

Table 5. Large urban areas with the greatest college earnings premiums for bachelor's degrees (versus associate degrees) include the southern parts of Connecticut near New York City, the New York City area, and Brevard County, Florida, home to the Kennedy Space Center.

METROPOLITAN AREA	Bachelor's Degree Mean Earnings	Associate Degree Mean Earnings	Percentage Earnings Difference
Bridgeport-Stamford-Norwalk, CT	$166,463	$83,495	99.4%
Palm Bay–Melbourne–Titusville (Brevard County), FL	82,657	48,630	70.0%
New York–Newark–Jersey City, NY-NJ-PA	125,123	73,617	70.0%
Atlanta–Sandy Springs–Roswell, GA	98,402	58,442	68.4%
Chattanooga, TN-GA	84,163	51,160	64.5%
Charlotte-Concord-Gastonia, NC-SC	94,265	57,470	64.0%
San Francisco–Oakland–Hayward, CA	131,990	80,656	63.6%
Charleston–North Charleston, SC	82,319	50,760	62.2%
Orlando-Kissimmee-Sanford, FL	86,453	53,330	62.1%
Columbus, OH	92,506	57,483	60.9%
Jacksonville, FL	85,875	53,539	60.4%
Raleigh, NC	93,998	58,664	60.2%
Detroit-Warren-Dearborn, MI	96,452	60,892	58.4%
Los Angeles–Long Beach–Anaheim, CA	109,737	69,409	58.1%
Chicago-Naperville-Elgin, IL-IN-WI	104,318	65,995	58.1%
Austin–Round Rock, TX	96,185	61,025	57.6%
St. Louis, MO-IL	91,063	57,809	57.5%
Boston-Cambridge-Newton, MA-NH	114,266	72,579	57.4%
San Jose–Sunnyvale–Santa Clara, CA	141,276	89,871	57.2%
Denver-Aurora-Lakewood, CO	101,112	64,408	57.0%
Birmingham-Hoover, AL	85,871	54,833	56.6%
Portland–South Portland, ME	85,333	54,498	56.6%
Greensboro–High Point, NC	77,743	49,683	56.5%
Washington-Arlington-Alexandria, DC-VA-MD-WV	116,815	74,653	56.5%
Miami–Fort Lauderdale–West Palm Beach, FL	93,054	59,885	55.4%
National	**92,608**	**59,707**	**55.1%**

Note: Based on the author's calculations from the ACS. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. Large MSAs are restricted to those with year 2010 population greater than 500,000.

Table 6 presents the twenty-five large MSAs with the smallest earnings premiums for a bachelor's degree relative to an associate degree. Modesto, California, comes in last with a premium of just 19.6 percent (for earnings averages and college wage premiums for all 104 large MSAs, see Appendix Table A11).

Table 6. Large urban areas with the smallest premiums for a bachelor's degree (relative to an associate degree) include Modesto in central California and Lakeland–Winter Haven in central Florida.

METROPOLITAN AREA	Bachelor's Degree Mean Earnings	Associate Degree Mean Earnings	Percentage Earnings Difference
Modesto, CA	$80,572	$67,343	19.6%
Lakeland–Winter Haven, FL	66,570	55,294	20.4%
Springfield, MA	83,344	67,191	24.0%
El Paso, TX	62,421	49,657	25.7%
Scranton–Wilkes-Barre–Hazleton, PA	73,600	57,880	27.2%
McAllen-Edinburg-Mission, TX	68,215	53,640	27.2%
Stockton-Lodi, CA	92,177	72,368	27.4%
Riverside–San Bernardino–Ontario, CA	86,446	67,481	28.1%
Bakersfield, CA	87,813	68,143	28.9%
Baton Rouge, LA	82,426	63,115	30.6%
Sacramento–Roseville–Arden-Arcade, CA	94,453	71,635	31.9%
Salt Lake City, UT	87,218	65,541	33.1%
Virginia Beach–Norfolk–Newport News, VA-NC	77,327	58,068	33.2%
Columbia, SC	77,529	57,356	35.2%
New Haven–Milford, CT	90,709	67,040	35.3%
Tulsa, OK	81,186	59,812	35.7%
Lancaster, PA	86,678	63,805	35.8%
San Antonio–New Braunfels, TX	77,917	57,192	36.2%
Albuquerque, NM	73,652	53,952	36.5%
Madison, WI	86,262	63,178	36.5%
Grand Rapids–Wyoming, MI	82,682	60,013	37.8%
Augusta–Richmond County, GA-SC	73,407	53,274	37.8%
Boise, ID	82,784	59,897	38.2%
Deltona–Daytona Beach–Ormond Beach, FL	72,002	52,009	38.4%
Urban Honolulu, HI	84,405	60,880	38.6%
National	**92,608**	**59,707**	**55.1%**

Note: Based on the author's calculations from the ACS. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. Large MSAs are restricted to those with year 2010 population greater than 500,000.

COLLEGE EARNINGS PREMIUMS BY RACE AND ETHNICITY

The CEPs documented thus far have combined American-born workers of all races and ethnicities. This section classifies workers into mutually exclusive racial/ethnic groups including Asian, black, Hispanic, and white workers.[23] Although some workers do not fit into these groups, they are not examined due to small sample sizes[24] (see *Appendix B* for state-level CEPs by racial/ethnic group).

FINDING 5: The college earnings premium varies by race/ethnicity, with larger premiums for white and Asian workers than other groups.

The CEPs documented thus far have combined all American-born workers, but differences appear when we disaggregate workers by racial and ethnic background.

Nationally, Asian and white workers earn more at every education level than do Hispanic and black workers, but the two former groups also have greater CEPs (Table 7). The bachelor's premium versus that of an associate degree is highest for Asian workers (61.0 percent), and white workers have the second-highest premium (55.9 percent). Hispanic workers have the lowest bachelor's degree premium versus associate degree premium (36.7 percent), and the premium for black workers (38.2 percent) is also below the national average of 55.1 percent.

The large bachelor's premiums for white and Asian workers reflect the much larger disparity in earnings for bachelor's degree holders across racial/ethnic groups than for workers with only a high school diploma. White and Asian workers with high school diplomas outearn their black and Hispanic counterparts, and the largest gap—that between white and black workers—is $12,265 (column 1). Though substantial, this difference pales in comparison to the difference between these groups for bachelor's degree holders, a difference exceeding $30,000 (column 3).

Table 7. College earnings premiums are generally higher for Asian and white workers than for black and Hispanic workers.

Race/ Ethnicity	High School (1)	Associate Degree (2)	Bachelor's Degree (3)	% Diff Associate–High School (4)	% Diff Bachelor's–High School (5)	% Diff Bachelor's–Associate (6)
Asian	$47,544	$58,634	$94,420	23.3%	98.6%	61.0%
Black	40,596	47,981	66,324	18.2%	63.4%	38.2%
Hispanic	44,742	55,897	76,402	24.9%	70.8%	36.7%
White	52,861	62,128	96,869	17.5%	83.3%	55.9%
National	**50,151**	**59,707**	**92,608**	**19.1%**	**84.7%**	**55.1%**

Note: Based on the author's calculations from the ACS. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S.

Although differences across race and ethnicity merit examination, their interpretation is less clear. Earnings and earnings premiums that are less than corresponding estimates for white workers may reflect some combination of labor-market discrimination, differing educational concentrations or quality, intergenerational transmission of human capital, and/or numerous other factors.

Table 8 shows the states with the largest and smallest bachelor's degree premiums for black workers. The states with the largest bachelor's degree premium versus associate degree premium for black workers are Colorado (55.6 percent) and Arizona (55.0 percent), and the states with the largest bachelor's premiums versus high school diploma premiums for the same category are New Jersey (88.5 percent) and Florida (75.8 percent). The states with the lowest bachelor's degree premiums versus associate degree premiums are Oklahoma (9.8 percent) and Arkansas (17.7 percent).

Table 8. Colorado and Arizona have the highest bachelor's degree (versus associate degree) premiums for black workers, while Oklahoma and Arkansas have the lowest.

TOP 10			BOTTOM 10		
State	Bachelor's–Associate	Bachelor's–High School	State	Bachelor's–Associate	Bachelor's–High School
Colorado	55.6%	63.7%	Oklahoma	9.8%	34.6%
Arizona	55.0%	61.6%	Arkansas	17.7%	49.8%
Ohio	47.7%	61.2%	Indiana	22.3%	48.8%
Florida	46.9%	75.8%	Louisiana	23.3%	50.6%
New Jersey	46.6%	88.5%	Illinois	24.5%	53.2%
Virginia	46.3%	72.5%	Mississippi	24.7%	34.0%
Michigan	45.9%	59.7%	Connecticut	24.7%	18.2%
Georgia	40.1%	66.3%	Washington	25.4%	38.8%
North Carolina	39.8%	58.1%	Alabama	27.7%	49.9%
California	39.1%	68.7%	Maryland	29.0%	60.9%

Note: The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. To be included in this table, each state must have at least ninety black workers in the analytical sample in each of the three education groups (high school diploma, associate degree, and bachelor's degree holders). States are ranked by the bachelor's degree (versus associate degree) premium. Note that the bachelor's–high school premium is smaller than the bachelor's-associate premium in Connecticut, where black workers with high school diplomas slightly outearn black workers with associate degrees. For data on earnings for each racial/ethnic group in each state, see Appendix B.

Table 9 shows the states with the largest and smallest bachelor's degree premiums for Hispanic workers. The states with the largest bachelor's degree premiums versus associate degree premiums for these same workers are Georgia (56.6 percent), Michigan (56.4 percent), and Ohio (54.6 percent), and the states with the largest bachelor's degree premiums versus high school diploma premiums for Hispanic workers are Virginia (85.3 percent), Florida (85.2 percent), and Michigan (84.7 percent). The states with the lowest bachelor's degree premiums versus associate degree premiums are Indiana (17.3 percent) and Oregon (24.8 percent), although Oregon has a bachelor's degree premium versus a high school diploma (75.5 percent) that is higher than average for Hispanic workers.

Table 9. Georgia and Michigan have the highest bachelor's degree (versus associate degree) premiums for Hispanic workers, while Indiana and Oregon have the lowest.

TOP 10			BOTTOM 10		
State	Bachelor's–Associate	Bachelor's–High School	State	Bachelor's–Associate	Bachelor's–High School
Georgia	56.6%	76.6%	Indiana	17.3%	26.3%
Michigan	56.4%	84.7%	Oregon	24.8%	75.5%
Ohio	54.6%	58.5%	Nevada	27.3%	55.6%
Pennsylvania	46.9%	57.6%	Texas	28.8%	61.9%
Virginia	42.8%	85.3%	New Mexico	29.5%	53.1%
Massachusetts	41.5%	79.7%	New Jersey	31.3%	70.0%
Illinois	40.5%	70.5%	Colorado	33.0%	54.9%
Florida	40.3%	85.2%	New York	34.3%	73.2%
Connecticut	40.3%	66.9%	Washington	34.4%	62.0%
California	37.0%	78.1%	Arizona	35.8%	73.5%

Note: The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. To be included in this table, each state must have at least ninety black workers in the analytical sample in each of the three education groups (high school diploma, associate degree, and bachelor's degree holders). States are ranked by the bachelor's degree (versus associate degree) premium. For data on earnings for each racial/ethnic group in each state, see Appendix B.

Section IV:

Implications

In all fifty states and D.C., workers with bachelor's degrees consistently outearn workers with less education, although these differences vary. The United States is a large and diverse land with changing needs for skilled labor in different parts of the country, and this analysis finds the lowest CEPs accrue to workers in the country's rural areas. In the natural resource economies of states like the Dakotas, Alaska, and Wyoming, the wage disparities are especially low, particularly for associate degrees.

In light of these findings, three key implications merit attention.

1. When students make decisions about whether to pursue higher education and which kind, they should take geography into account.

In line with the idea that urban employment increases labor productivity and worker earnings, we find that earnings are higher in more populous states with large urban areas than in less populous and more rural states. For example, the bachelor's degree (versus associate degree) premium is 57.0 percent in the largest MSAs but just 34.0 percent in MSAs with fewer than 500,000 inhabitants. Thus, young people planning to live in larger cities should be aware that some form of higher education may be necessary to attain a comfortable standard of living, especially given sharply rising housing costs in many of the nation's thriving urban centers.[25] At the same time, those intending to work in rural areas or small cities should recognize that the financial return on many types of higher education is often more modest in those areas, although some fields of study may still be reasonably lucrative in those less populous areas.

This basic takeaway suggests that context matters in decisions about educational investments. Young people should consider what type of community they may want to live in, explore the possible career paths and earnings opportunities that they can expect, and choose an education route that offers a good investment for them given their particular preferences, circumstances, and resources.

2. The policymaking and research communities should help students understand how education and labor markets intersect.

Because job markets and education premiums are context dependent, high schools and higher education institutions are ideal institutions to spearhead efforts to inform students about education opportunities and related job prospects. However, these institutions often lack the resources and incentives to provide good information. High schools often have insufficient college- and career-counseling services, and colleges and universities face incentives to recruit for tuition dollars, regardless of the actual benefits for students.

Unfortunately, students sometimes pursue meaningless credentials with little demonstrated market value, even when such credentials are explicitly vocational or occupationally focused. For example, an analysis by New America's Kevin Carey found that most students who earned medical-assistant credentials attended programs where the average graduate earned less than $16,000 after completion.[26] Coupled with the absence of local labor-market data, misleading facts from schools' marketing departments contribute to poorly informed choices about what college to attend and what field to study.

Local policymakers and researchers can help by providing relevant and actionable information to students and other stakeholders. In Kentucky, for example, state leaders commissioned analyses to identify fields with the most career opportunities and the schools and technical academies that had programs leading to careers in those fields. Those data resulted in an interactive heat map showing where students had the most and least access to these programs.[27] In Wisconsin, state leaders developed a set of customized electronic portals that provide information about regional career opportunities to local school staff and students, including descriptions of multiple potential career pathways and what career and technical courses, work-based learning requirements, and/or postsecondary academic preparation are needed for each pathway.[28]

3. Many less populous places will likely continue to struggle to prosper.

Rural areas and small urban areas tend to have relatively low CEPs—both because the demand for college-educated labor is limited and because the demand for high-school-educated labor is often relatively strong. This is especially true in areas with considerable natural resources employment such as fossil fuel extraction and mining.

The higher productivity and earnings in large urban areas will continue to put rural areas and smaller urban areas at a significant disadvantage in attracting and retaining workers, especially those who are young and highly educated. Less populous areas also have a lower cost of living and can offer consumption and lifestyle amenities that many people find attractive, though such benefits are not always enough to attract workers.

For many highly educated workers, the urban-rural earnings difference is simply too large for them to choose a rural labor market. Their choice, in turn, affects less educated workers, too, because highly educated workers tend to create spillovers that benefit less educated workers in the same labor market. When less populous areas lose highly educated workers, tax bases suffer, fewer new jobs are created, and opportunities diminish.

Better infrastructure such as transportation and Internet access may help some rural areas, albeit at a cost to taxpayers. Furthermore, some rural areas may be sustainable with effective policy interventions or the development of skilled remote workers,[29] but some may be too disadvantaged to prosper, even with heavy investments from outside the community. Simply put, it is imperative that the policy and research communities continue to study, discuss, and experiment with possible interventions to help lagging areas.

The U.S. is not a single uniform labor market but a collection of many local labor markets. Each has its own particular context and characteristics that carry implications within its geographical area both for wages and CEPs. This diversity in labor markets often gets lost in national policy conversations. But based on these findings, local policymakers should reconsider their local context and the role that higher education—including community colleges, industry-endorsed credential programs, and four-year institutions—should play in their communities to accommodate students with differing needs and aspirations.

Section V:

State Profiles

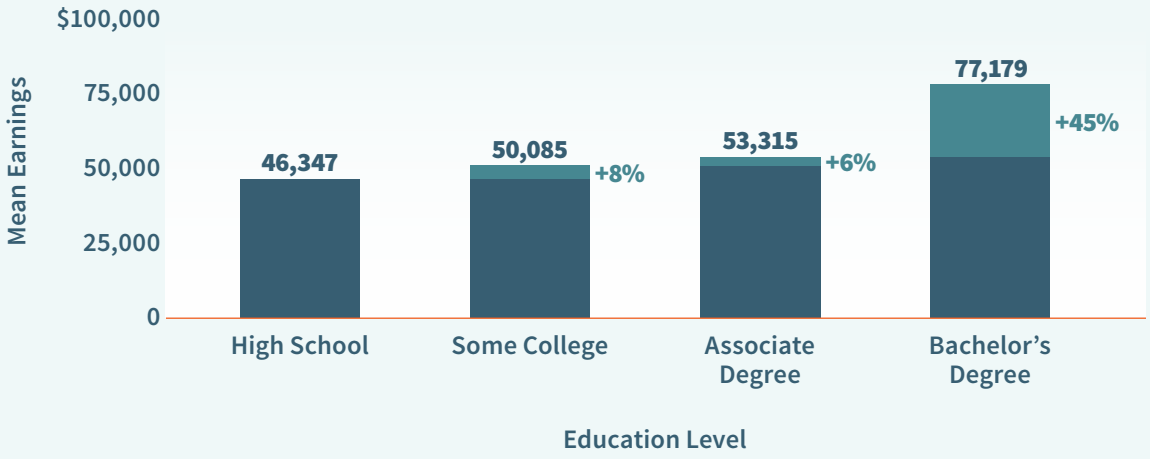
This section reports the college earnings premiums for each state and its most populous MSA(s). For MSAs that cross state boundaries, the figures presented include the full MSA.

*State's largest MSA is not reported because its population is less than 500,000.
**State has multiple large cities so data for the two largest MSAs are reported.

Alabama

On average, Alabamians with bachelor's degrees earn 44.8 percent more than those with associate degrees ($77,179 versus $53,315) and 66.5 percent more than those with high school diplomas (Figure AL-1).

Figure AL-1. Alabama mean earnings by education level

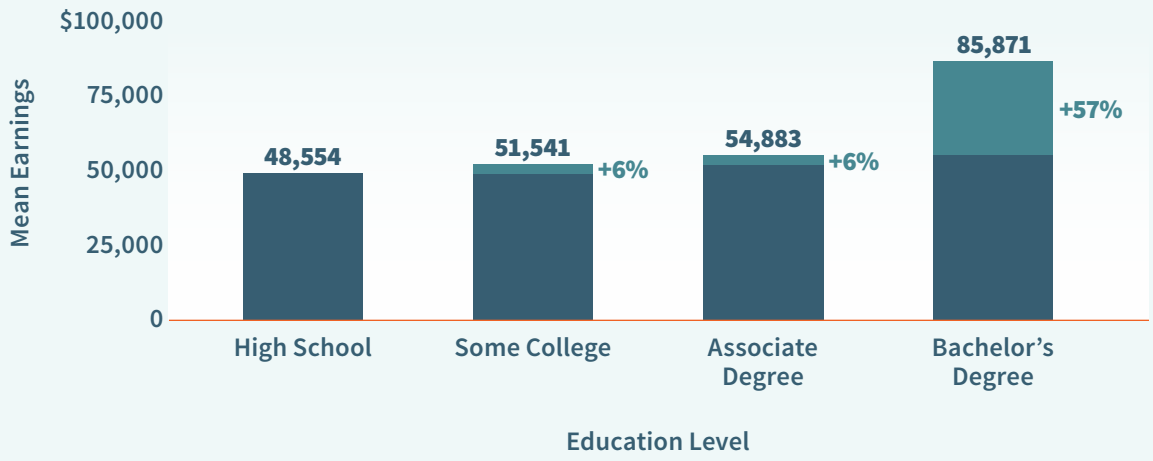


Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The percentage change in teal notes the difference from the next-highest level of education in the figure.

The largest MSA in Alabama is Birmingham-Hoover.[1] On average, workers with bachelor's degrees earn 56.6 percent more than those with associate degrees ($85,871 versus $54,833) and 76.9 percent more than those with high school diplomas (Figure AL-2). Education earnings premiums by race show that premiums are higher for white workers than for black workers. Black bachelor's degree holders in Alabama earn 27.7 percent more than black workers with associate degrees in the state and 49.9 percent more than black high school graduates. For white workers in Alabama, bachelor's degree holders enjoy a 46.3 percent premium over associate degree holders and a 65.2 percent earnings premium relative to high school graduates (Figure AL-3).

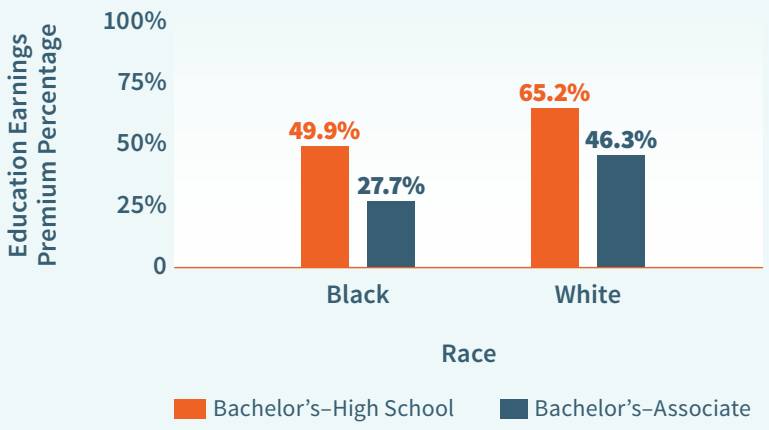
1. Data for a second MSA are reported only when a state has more than one large MSA, defined as a metro area with population greater than 500,000.

Figure AL-2. Birmingham-Hoover MSA mean earnings by education level



Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The percentage change in teal notes the difference from the next-highest level of education in the figure.

Figure AL-3. Education earnings premiums by race in Alabama



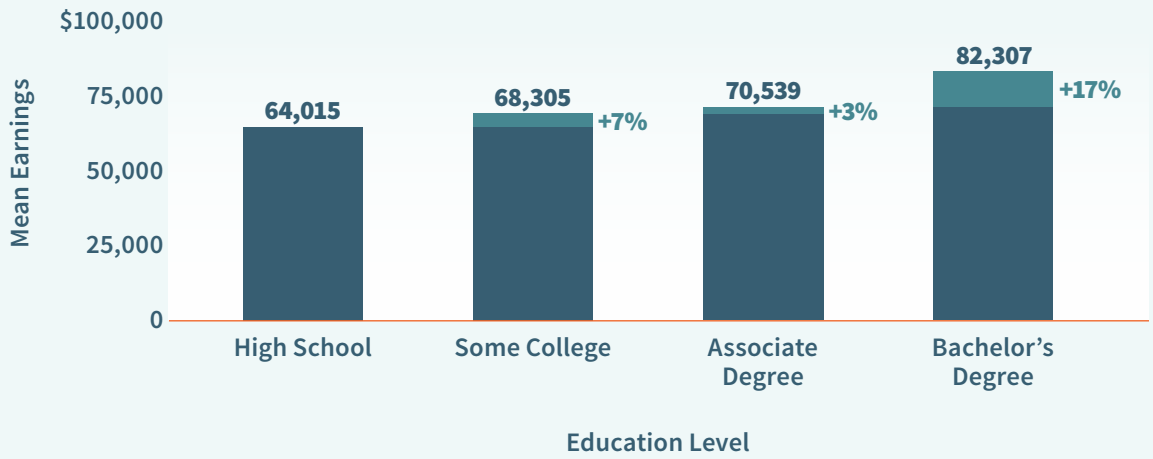
Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The analysis by race/ethnicity is restricted to those jurisdictions with at least ninety workers in the sample by both state and race/ethnicity for each of the three analyzed education groups (high school graduates, workers with associate degrees, and workers with bachelor's degrees).

Alaska

On average, Alaskans with bachelor's degrees earn 16.7 percent more than those with associate degrees ($82,307 versus $70,539) and 28.6 percent more than those with high school diplomas (Figure AK-1).

Alaska has no MSA with population greater than 500,000.

Figure AK-1. Alaska mean earnings by education level

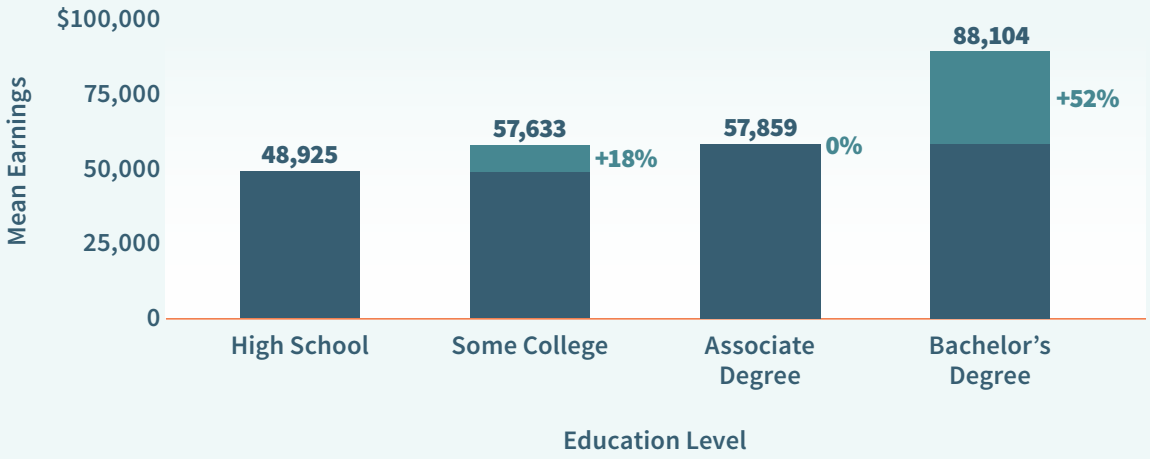


Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The percentage change in teal notes the difference from the next-highest level of education in the figure.

Arizona

On average, Arizonans with bachelor's degrees earn 52.3 percent more than those with associate degrees ($88,104 versus $57,859) and 80.1 percent more than those with high school diplomas (Figure AZ-1).

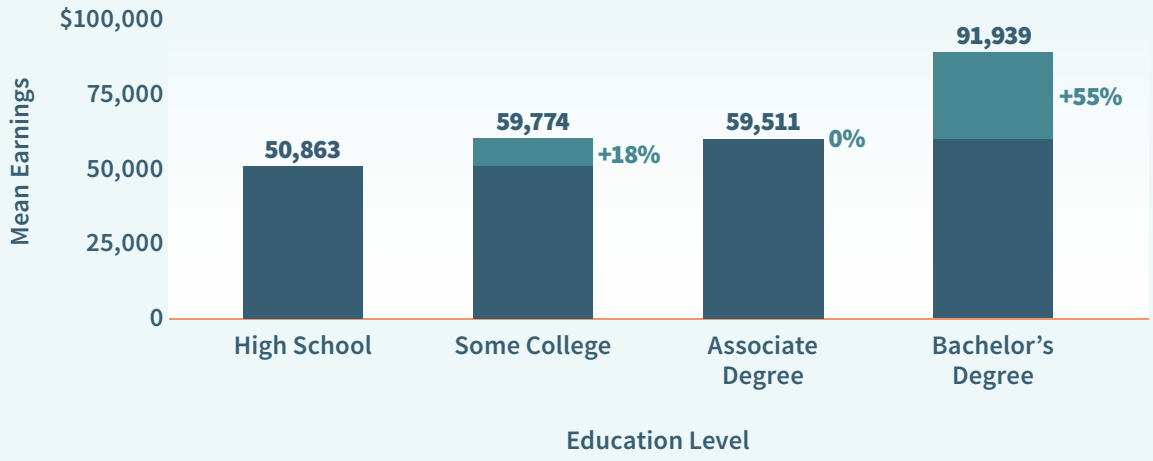
Figure AZ-1. Arizona mean earnings by education level



Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The percentage change in teal notes the difference from the next-highest level of education in the figure.

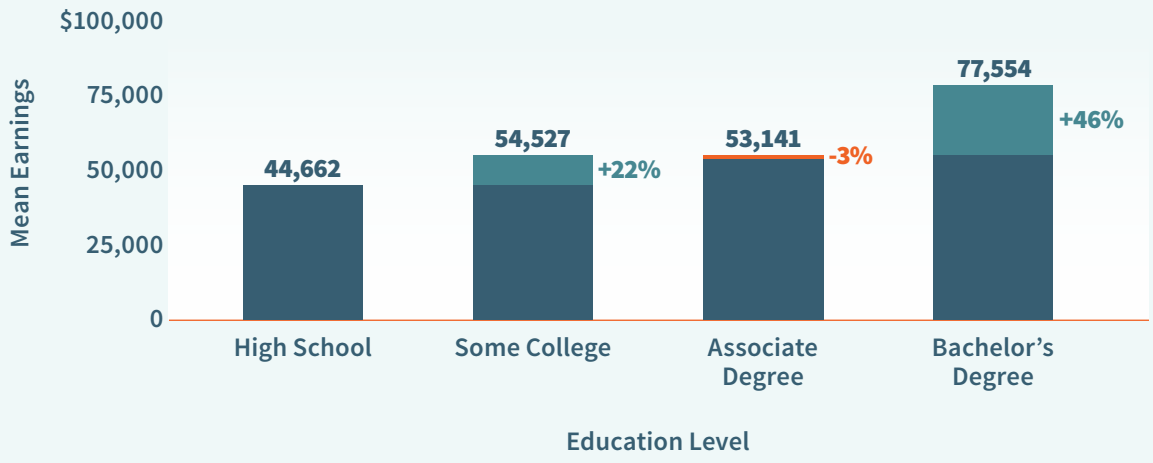
The largest MSA in Arizona is Phoenix-Mesa-Scottsdale. On average, workers with bachelor's degrees earn 54.5 percent more than those with associate degrees ($91,939 versus $59,511) and 80.8 percent more than those with high school diplomas (Figure AZ-2). The second largest MSA in Arizona is Tucson. On average, workers with bachelor's degrees earn 45.9 percent more than those with associate degrees ($77,554 versus $53,141) and 73.6 percent more than those with high school diplomas (Figure AZ-3).

Figure AZ-2. Phoenix-Mesa-Scottsdale MSA mean earnings by education level



Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The percentage change in teal notes the increase from the next-highest level of education in the figure.

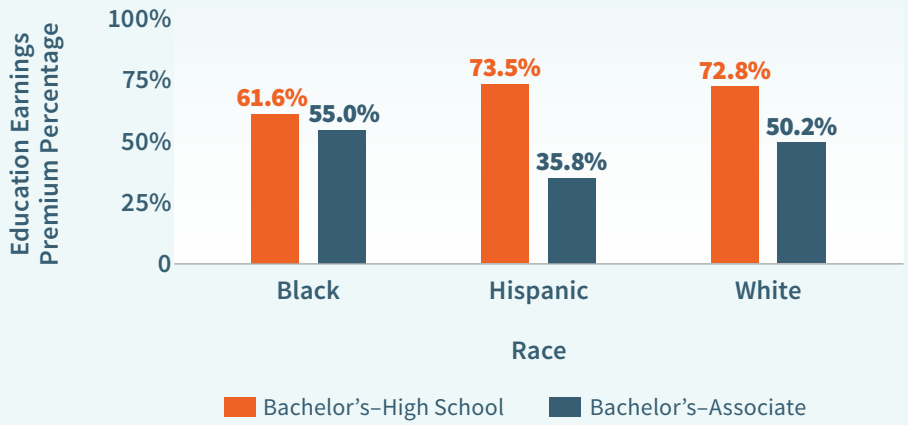
Figure AZ-3. Tucson MSA mean earnings by education level



Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The percentage change in teal notes the increase from the next-highest level of education in the figure, and the percentage change in orange notes a decrease from the next-highest level of education.

Education earnings premiums by race show that the bachelor's premium versus a high school diploma is higher for Hispanic and white workers than for black workers, but the bachelor's premium versus an associate degree is higher for black and white workers than for Hispanic workers. Black bachelor's degree holders in Arizona earn 55.0 percent more than black workers with associate degrees and 61.6 percent more than black high school graduates in the state. Hispanic bachelor's degree holders earn 35.8 percent more than Hispanic workers with associate degrees and 73.5 percent more than Hispanic high school graduates in the state. For white workers in Arizona, bachelor's degree holders enjoy a 50.2 percent premium over associate degree holders and a 72.8 percent earnings premium relative to high school graduates (Figure AZ-4).

Figure AZ-4. Education earnings premiums by race in Arizona

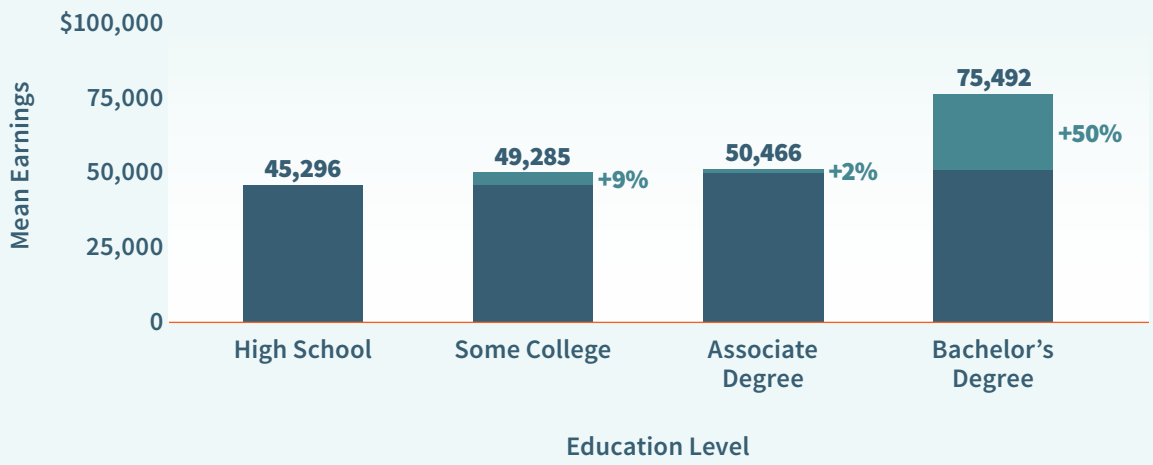


Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The analysis by race/ethnicity is restricted to those jurisdictions with at least ninety workers in the sample by both state and race/ethnicity for each of the three analyzed education groups (high school graduates, workers with associate degrees, and workers with bachelor's degrees).

Arkansas

On average, Arkansans with bachelor's degrees earn 49.6 percent more than those with associate degrees ($75,492 versus $50,466) and 66.7 percent more than those with high school diplomas (Figure AR-1).

Figure AR-1. Arkansas mean earnings by education level

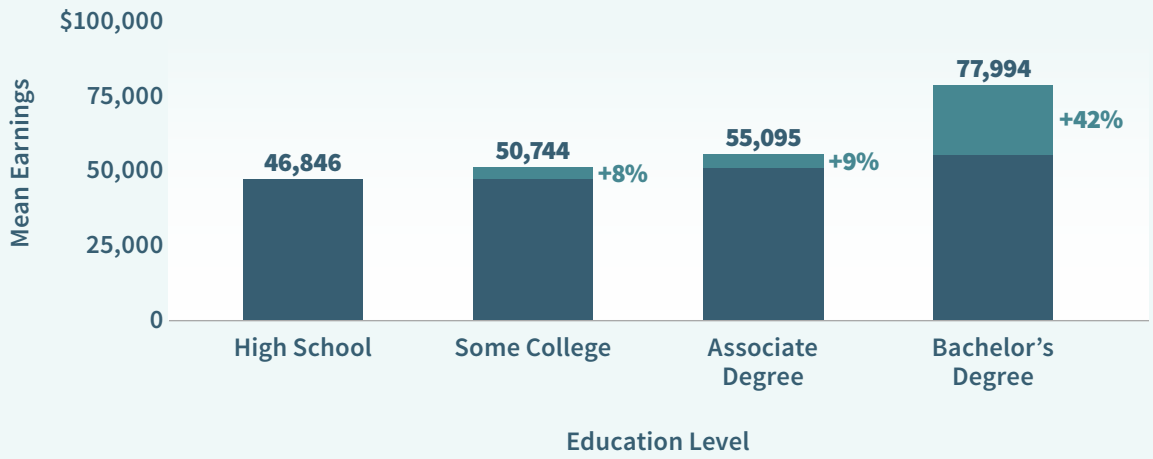


Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The percentage change in teal notes the difference from the next-highest level of education in the figure.

The largest MSA in Arkansas is Little Rock-North Little Rock-Conway.[1] On average, workers with bachelor's degrees earn 41.6 percent more than those with associate degrees ($77,994 versus $55,095) and 66.5 percent more than those with high school diplomas (Figure AR-2). Education earnings premiums by race show that premiums are higher for white workers than for black workers. Black bachelor's degree holders in Arkansas earn 17.7 percent more than black workers with associate degrees and 49.8 percent more than black high school graduates in the state. For white workers in Arkansas, bachelor's degree holders enjoy a 52.2 percent premium over associate degree holders and a 64.1 percent earnings premium relative to high school graduates (Figure AR-3).

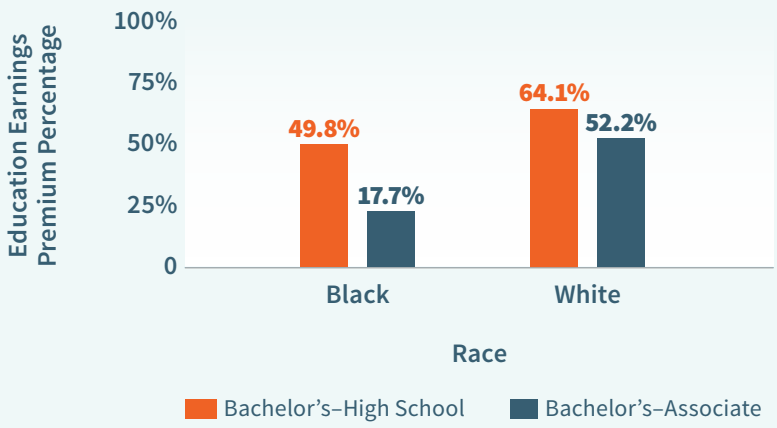
1. Data for a second MSA are reported only when a state has more than one large MSA, defined as a metro area with population greater than 500,000.

Figure AR-2. Little Rock-North Little Rock-Conway MSA mean earnings by education level



Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The percentage change in teal notes the difference from the next-highest level of education in the figure.

Figure AR-3. Education earnings premiums by race in Arkansas

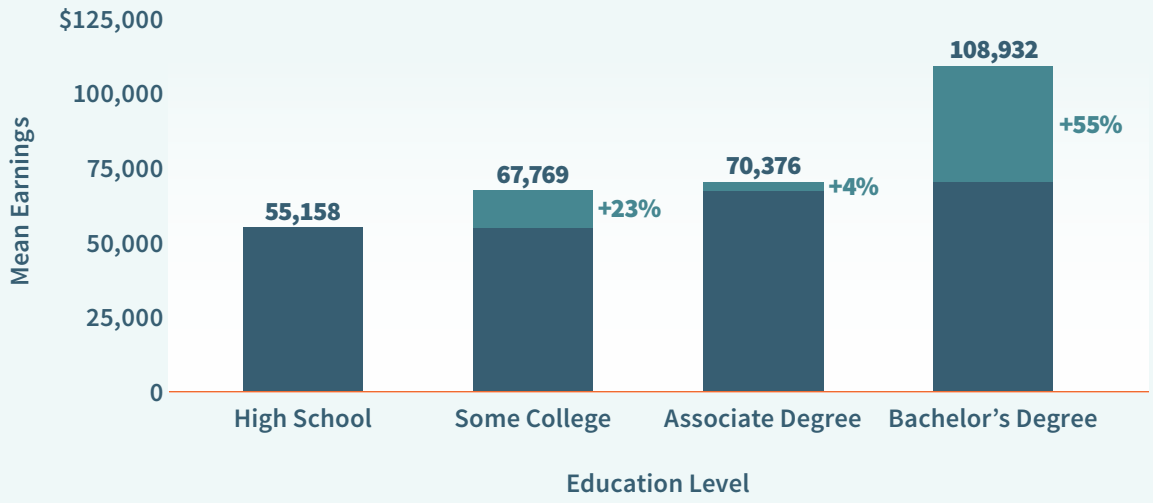


Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The analysis by race/ethnicity is restricted to those jurisdictions with at least ninety workers in the sample by both state and race/ethnicity for each of the three analyzed education groups (high school graduates, workers with associate degrees, and workers with bachelor's degrees).

California

On average, Californians with bachelor's degrees earn 54.8 percent more than those with associate degrees ($108,932 versus $70,376) and 97.5 percent more than those with high school diplomas (Figure CA-1).

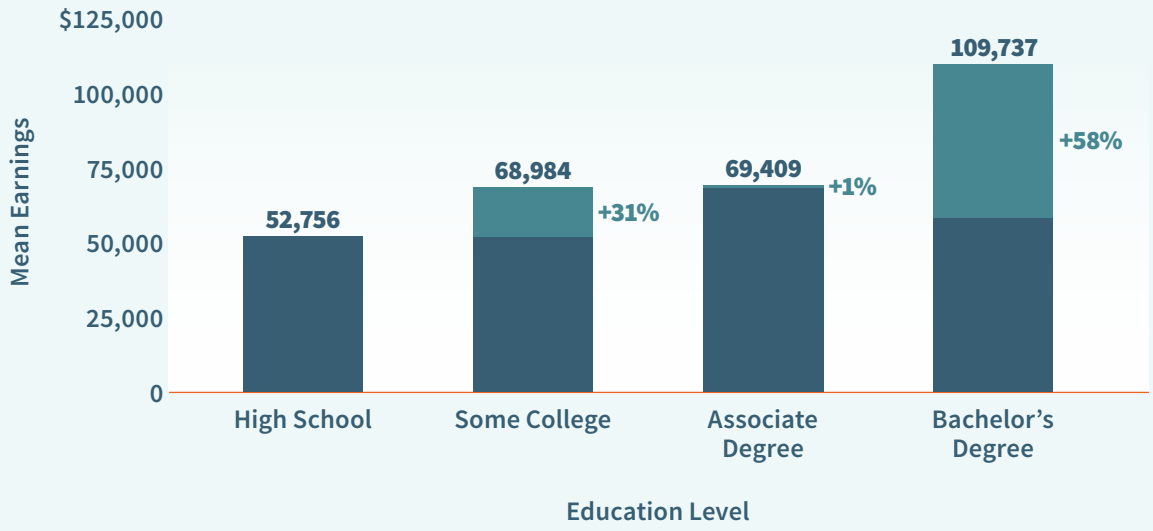
Figure CA-1. California mean earnings by education level



Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The percentage change in teal notes the difference from the next-highest level of education in the figure.

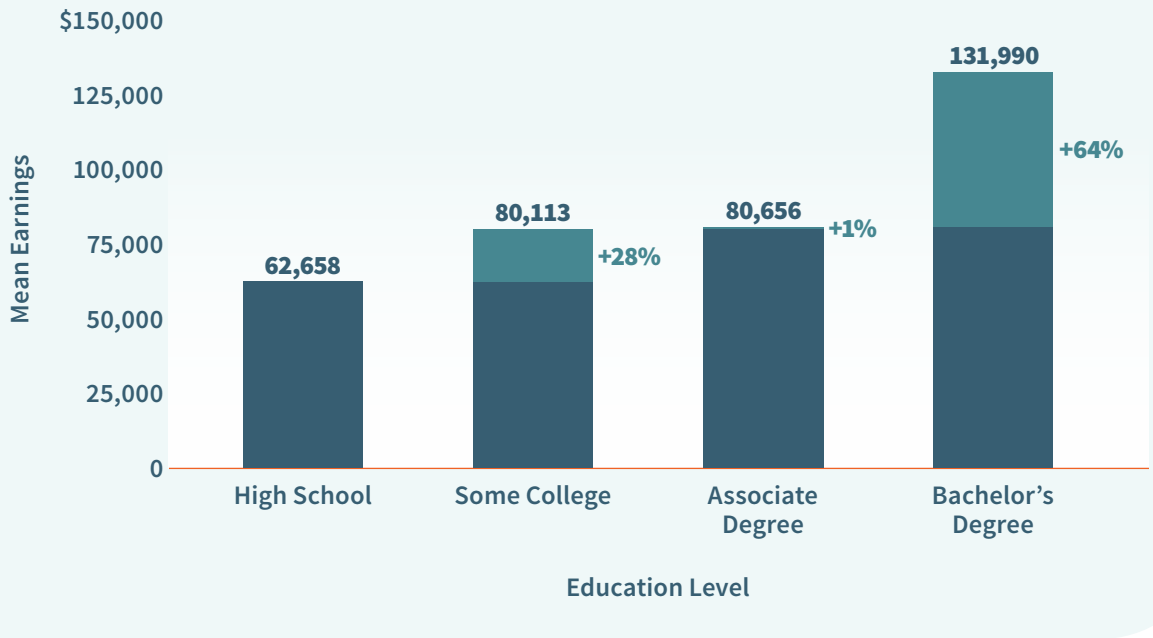
The largest MSA in California is Los Angeles-Long Beach-Anaheim. On average, workers with bachelor's degrees earn 58.1 percent more than those with associate degrees ($109,737 versus $69,409) and 108.0 percent more than those with high school diplomas (Figure CA-2). The second largest MSA in California is San Francisco-Oakland-Hayward. On average, workers with bachelor's degrees earn 63.6 percent more than those with associate degrees ($131,990 versus $80,656) and 110.7 percent more than those with high school diplomas (Figure CA-3).

Figure CA-2. Los Angeles-Long Beach-Anaheim MSA mean earnings by education level



Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The percentage change in teal notes the difference from the next-highest level of education in the figure.

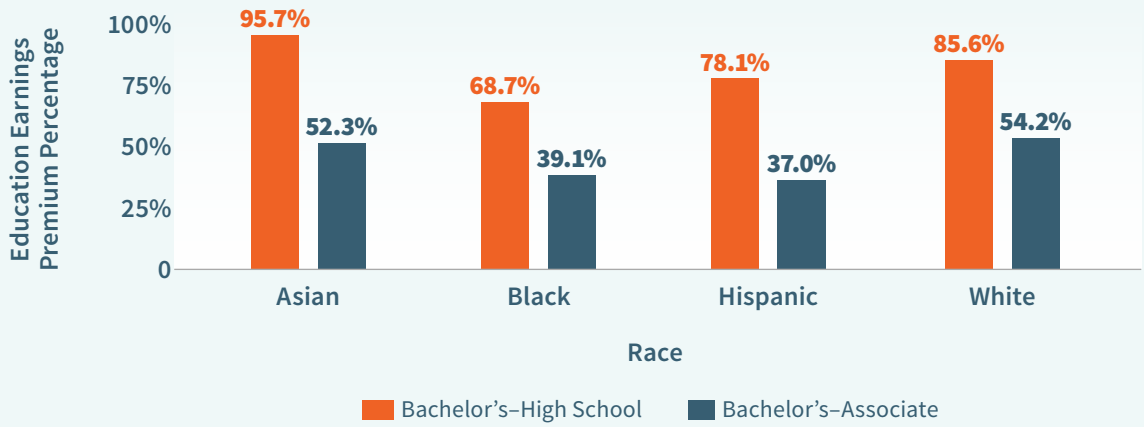
Figure CA-3. San Francisco-Oakland-Hayward MSA mean earnings by education level



Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The percentage change in teal notes the difference from the next-highest level of education in the figure.

Education earnings premiums by race show that premiums are higher for Asian and white workers than for black and Hispanic workers. Asian bachelor's degree holders in California earn 52.3 percent more than Asian workers with associate degrees and 95.7 percent more than Asian high school graduates in the state. Black bachelor's degree holders earn 39.1 percent more than black workers with associate degrees and 68.7 percent more than black high school graduates in the state. Hispanic bachelor's degree holders earn 37.0 percent more than Hispanic workers with associate degrees and 78.1 percent more than Hispanic high school graduates in the state. For white workers in California, bachelor's degree holders enjoy a 54.2 percent premium over associate degree holders and an 85.6 percent earnings premium relative to high school graduates (Figure CA-4).

Figure CA-4. Education earnings premiums by race in California

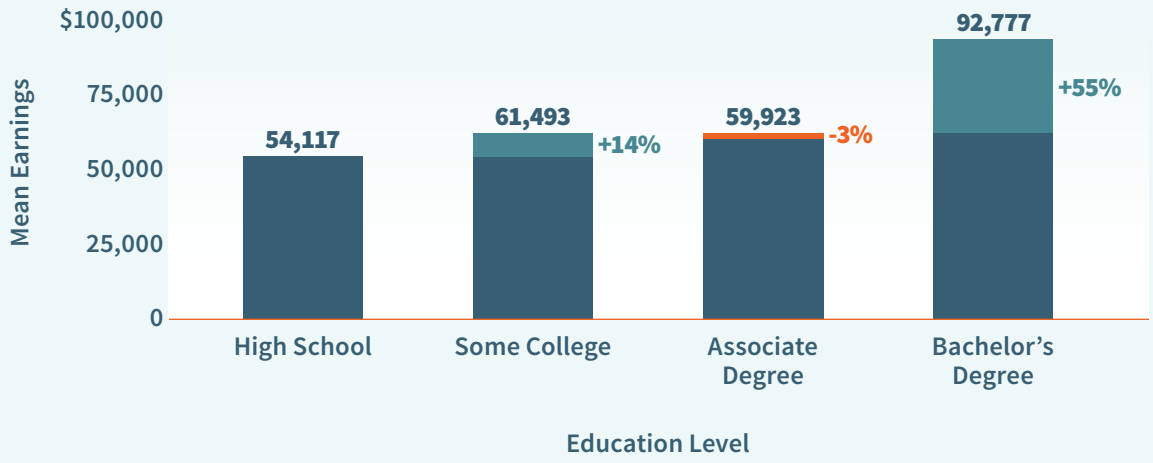


Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The analysis by race/ethnicity is restricted to those jurisdictions with at least ninety workers in the sample by both state and race/ethnicity for each of the three analyzed education groups (high school graduates, workers with associate degrees, and workers with bachelor's degrees).

Colorado

On average, Coloradans with bachelor's degrees earn 54.8 percent more than those with associate degrees ($92,777 versus $59,923) and 71.4 percent more than those with high school diplomas (Figure CO-1).

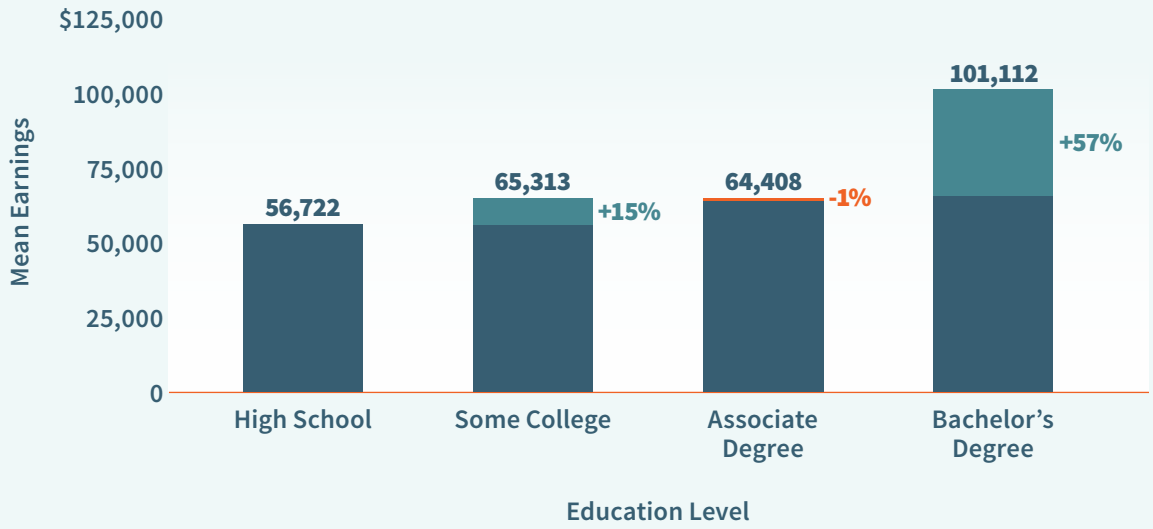
Figure CO-1. Colorado mean earnings by education level



Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The percentage change in teal notes the increase from the next-highest level of education in the figure, and the percentage change in orange notes a decrease from the next-highest level of education.

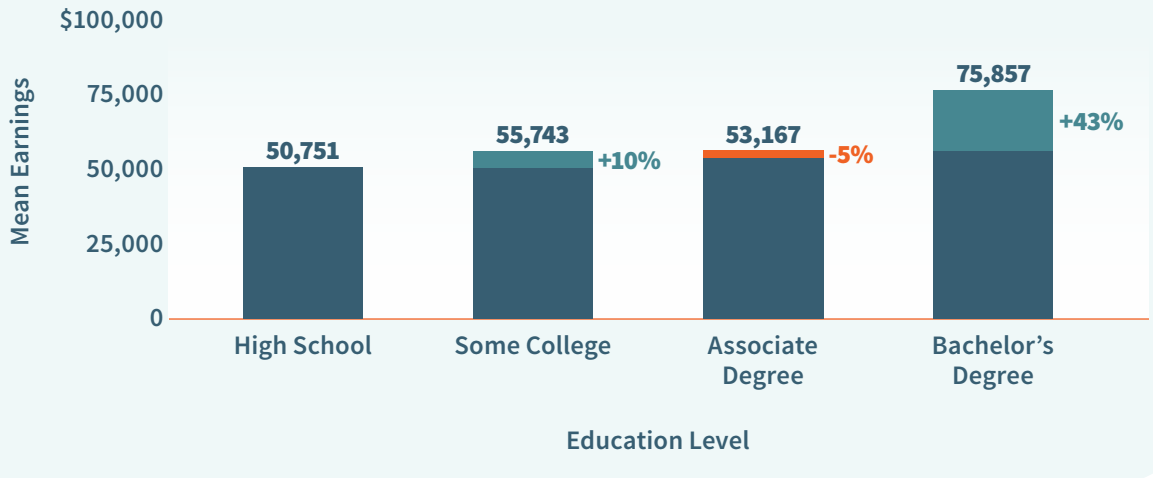
The largest MSA in Colorado is Denver-Aurora-Lakewood. On average, workers with bachelor's degrees earn 57.0 percent more than those with associate degrees ($101,112 versus $64,408) and 78.3 percent more than those with high school diplomas (Figure CO-2). The second largest MSA in Colorado is Colorado Springs. On average, workers with bachelor's degrees earn 42.7 percent more than those with associate degrees ($75,857 versus $53,167) and 49.5 percent more than those with high school diplomas (Figure CO-3).

Figure CO-2. Denver-Aurora-Lakewood MSA mean earnings by education level



Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The percentage change in teal notes the increase from the next-highest level of education in the figure, and the percentage change in orange notes a decrease from the next-highest level of education.

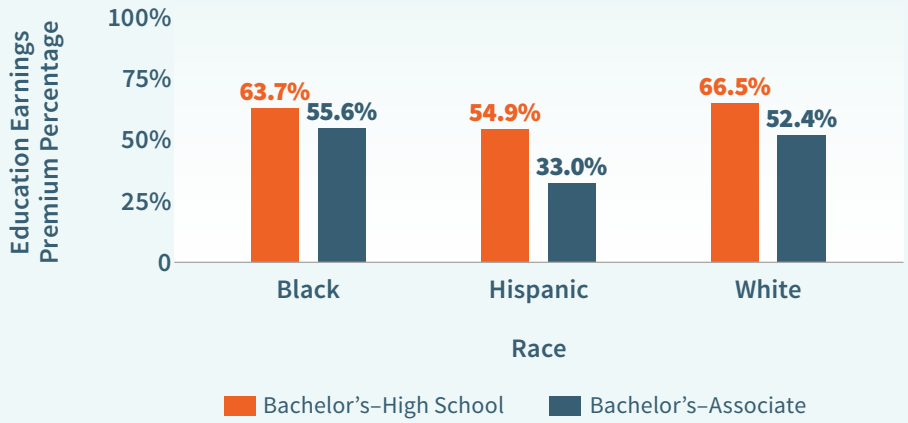
Figure CO-3. Colorado Springs MSA mean earnings by education level



Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The percentage change in teal notes the increase from the next-highest level of education in the figure, and the percentage change in orange notes a decrease from the next-highest level of education.

Education earnings premiums by race show that premiums are higher for black and white workers than for Hispanic workers. Black bachelor's degree holders in Colorado earn 55.6 percent more than black workers with associate degrees and 63.7 percent more than black high school graduates in the state. Hispanic bachelor's degree holders earn 33.0 percent more than Hispanic workers with associate degrees and 54.9 percent more than Hispanic high school graduates in the state. For white workers in Colorado, bachelor's degree holders enjoy a 52.4 percent premium over associate degree holders and a 66.5 percent earnings premium relative to high school graduates (Figure CO-4).

Figure CO-4. Education earnings premiums by race in Colorado

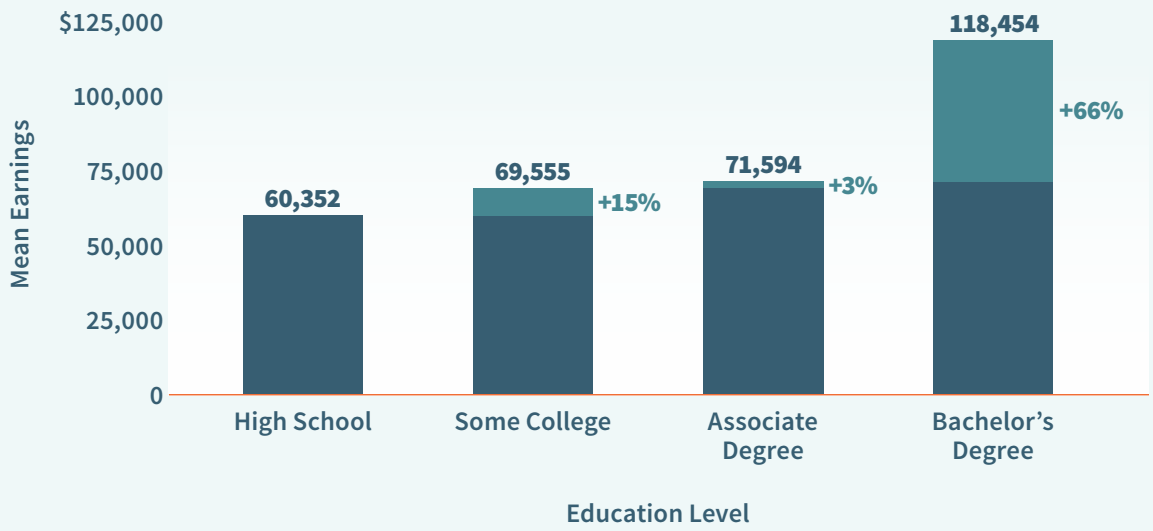


Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The analysis by race/ethnicity is restricted to those jurisdictions with at least ninety workers in the sample by both state and race/ethnicity for each of the three analyzed education groups (high school graduates, workers with associate degrees, and workers with bachelor's degrees).

Connecticut

On average, Connecticuters with bachelor's degrees earn 65.5 percent more than those with associate degrees ($118,454 versus $71,594) and 96.3 percent more than those with high school diplomas (Figure CT-1).

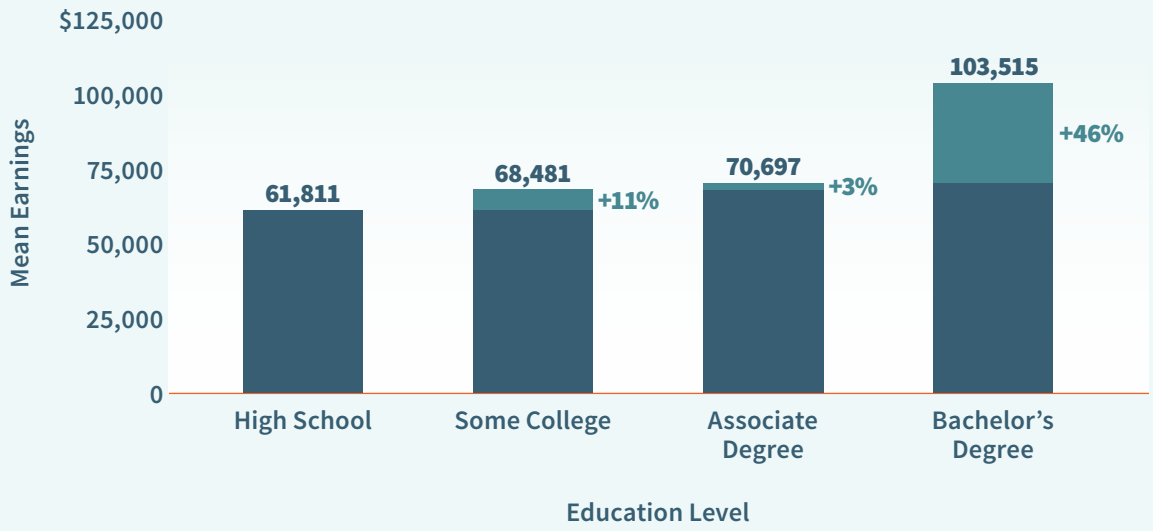
Figure CT-1. Connecticut mean earnings by education level



Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The percentage change in teal notes the difference from the next-highest level of education in the figure.

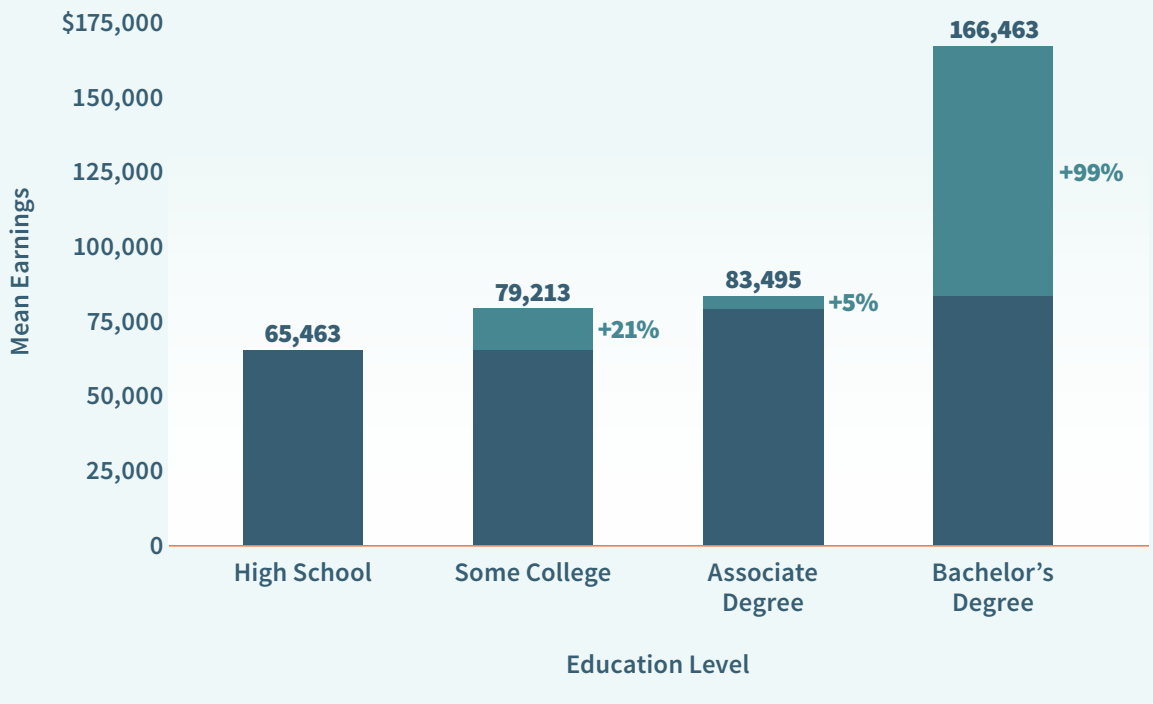
The largest MSA in Connecticut is Hartford-West Hartford-East Hartford. On average, workers with bachelor's degrees earn 46.4 percent more than those with associate degrees ($103,515 versus $70,697) and 67.5 percent more than those with high school diplomas (Figure CT-2). The second largest MSA in Connecticut is Bridgeport-Stamford-Norwalk. On average, workers with bachelor's degrees earn 99.4 percent more than those with associate degrees ($166,463 versus $83,495) and 154.3 percent more than those with high school diplomas (Figure CT-3).

Figure CT-2. Hartford-West Hartford-East Hartford MSA mean earnings by education level



Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The percentage change in teal notes the difference from the next-highest level of education in the figure.

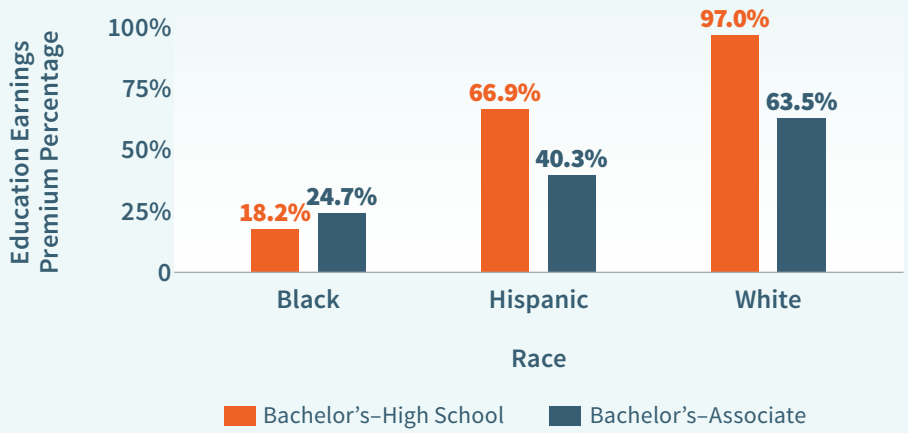
Figure CT-3. Bridgeport-Stamford-Norwalk MSA mean earnings by education level



Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The percentage change in teal notes the difference from the next-highest level of education in the figure.

Education earnings premiums by race show that premiums are higher for white workers than for black and Hispanic workers. Black bachelor's degree holders in Connecticut earn 24.7 percent more than black workers with associate degrees and 18.2 percent more than black high school graduates in the state. Hispanic bachelor's degree holders earn 40.3 percent more than Hispanic workers with associate degrees and 66.9 percent more than Hispanic high school graduates in the state. For white workers in Connecticut, bachelor's degree holders enjoy a 63.5 percent premium over associate degree holders and a 97.0 percent earnings premium relative to high school graduates (Figure CT-4).

Figure CT-4. Education earnings premiums by race in Connecticut



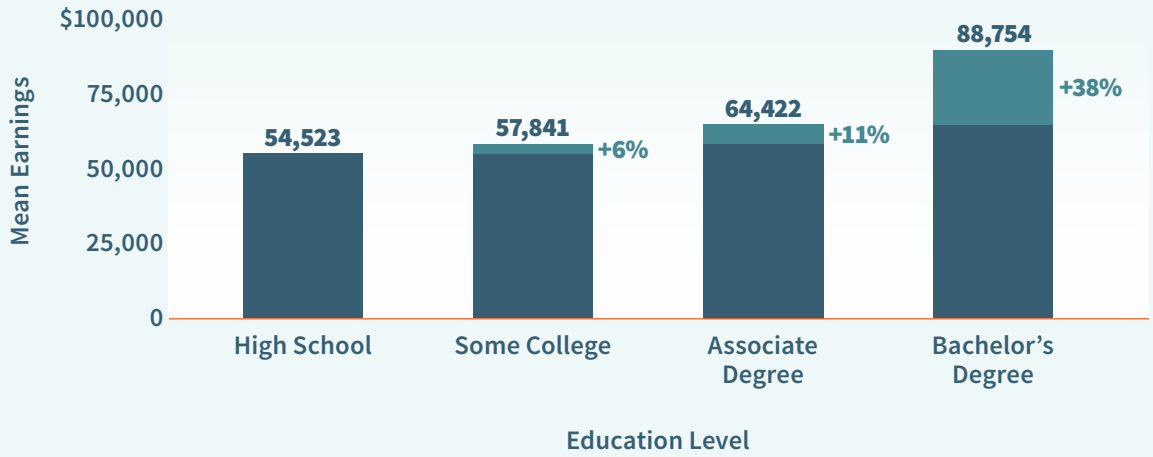
Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The analysis by race/ethnicity is restricted to those jurisdictions with at least ninety workers in the sample by both state and race/ethnicity for each of the three analyzed education groups (high school graduates, workers with associate degrees, and workers with bachelor's degrees).

Delaware

On average, Delawareans with bachelor's degrees earn 37.8 percent more than those with associate degrees ($88,754 versus $64,422) and 62.8 percent more than those with high school diplomas (Figure DE-1).

Delaware has no MSA with population greater than 500,000.

Figure DE-1. Delaware mean earnings by education level



Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The percentage change in teal notes the difference from the next-highest level of education in the figure.

District of Columbia

On average, Washingtonians with bachelor's degrees earn 78.6 percent more than those with associate degrees ($114,706 versus $64,221) and 97.4 percent more than those with high school diplomas (Figure DC-1). The largest MSA in the District of Columbia is Washington-Arlington-Alexandria.[1] On average, workers with bachelor's degrees earn 56.5 percent more than those with associate degrees ($116,815 versus $74,653) and 88.3 percent more than those with high school diplomas (Figure DC-2).

Figure DC-1. District of Columbia mean earnings by education level

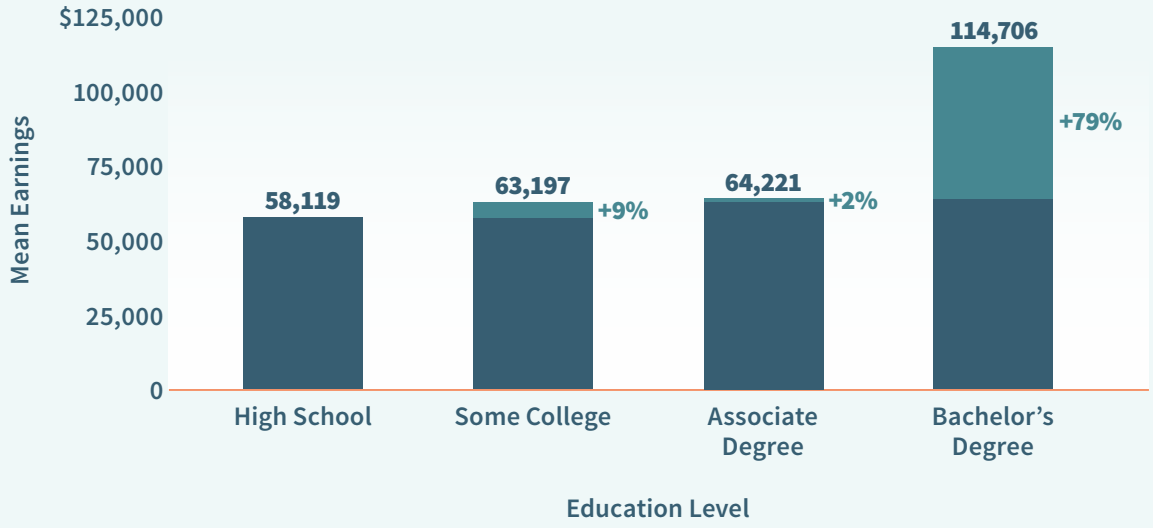
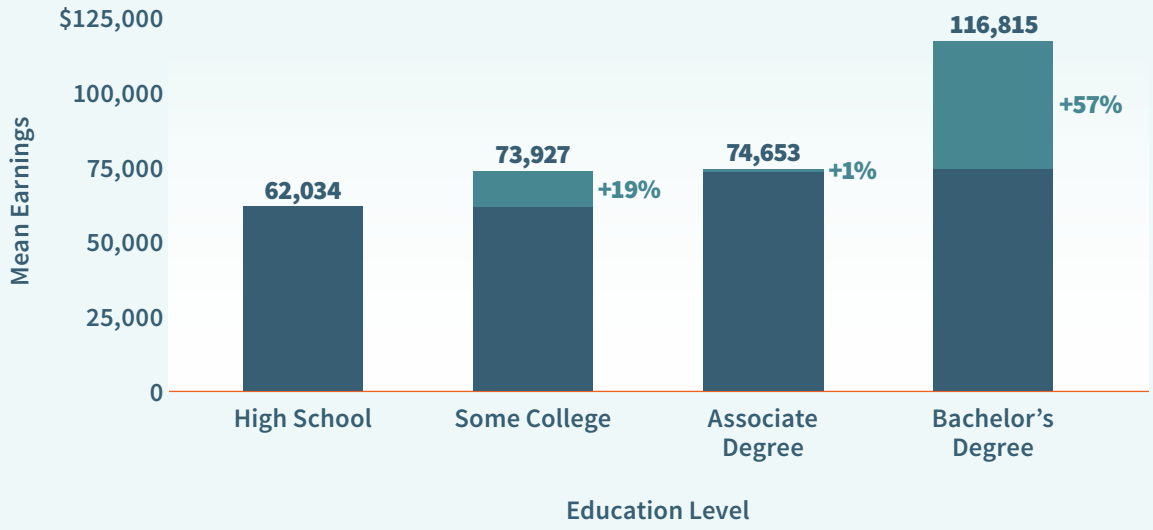


Figure DC-2. Washington-Arlington-Alexandria MSA mean earnings by education level



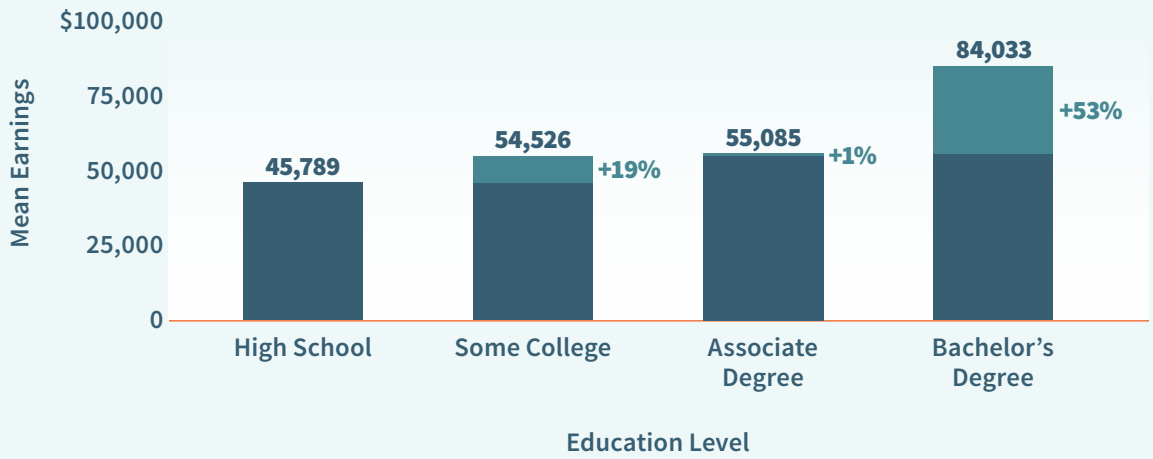
Note: Based on author's calculations from the American Community Survey. The samples are limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The percentage change in teal notes the difference from the next-highest level of education in the figure.

1. Data for a second MSA are reported only when a state (or, in this case, the District of Columbia) has more than one large MSA, defined as a metro area with population greater than 500,000.

Florida

On average, Floridians with bachelor's degrees earn 52.6 percent more than those with associate degrees ($84,033 versus $55,085) and 83.5 percent more than those with high school diplomas (Figure FL-1).

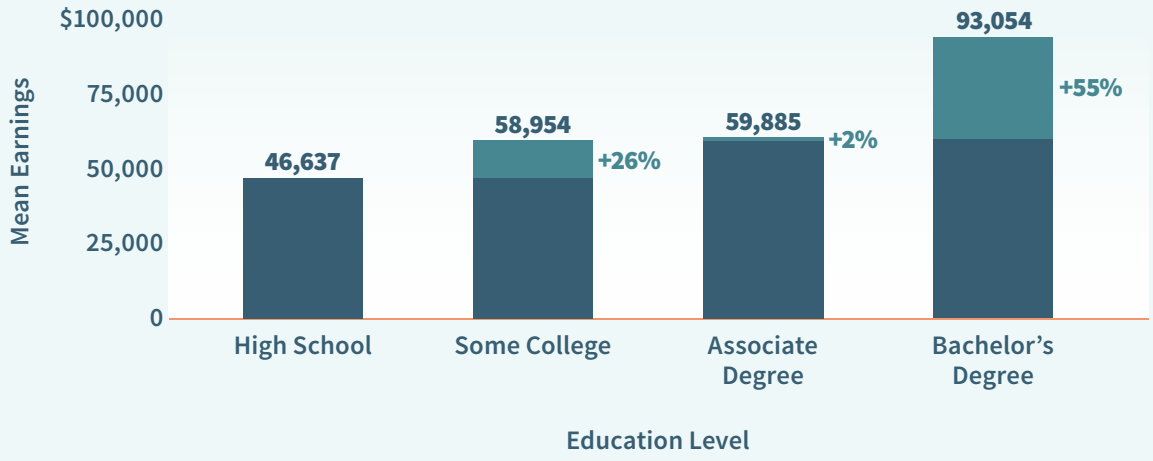
Figure FL-1. Florida mean earnings by education level



Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The percentage change in teal notes the difference from the next-highest level of education in the figure.

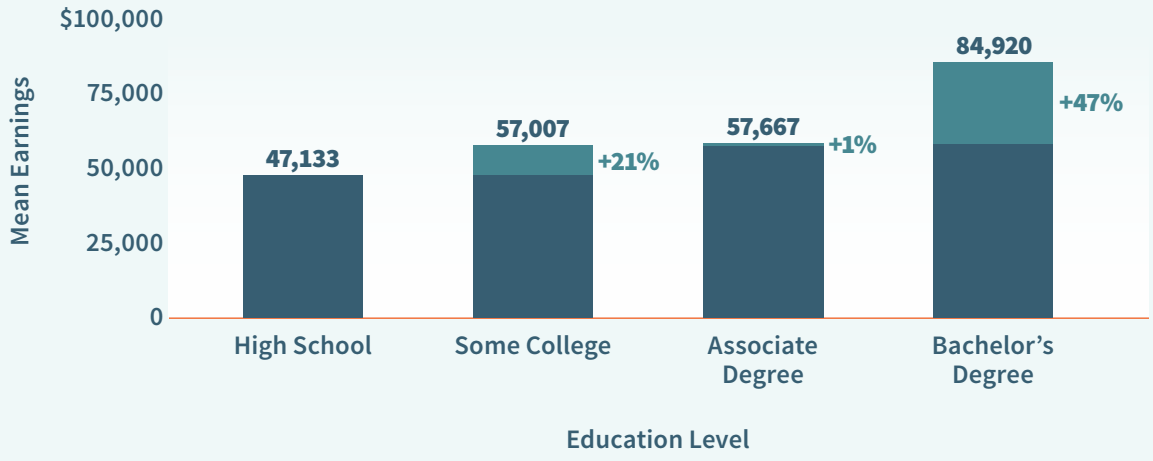
The largest MSA in Florida is Miami-Fort Lauderdale-West Palm Beach. On average, workers with bachelor's degrees earn 55.4 percent more than those with associate degrees ($93,054 versus $59,885) and 99.5 percent more than those with high school diplomas (Figure FL-2). The second largest MSA in Florida is Tampa-St. Petersburg-Clearwater. On average, workers with bachelor's degrees earn 47.3 percent more than those with associate degrees ($84,920 versus $57,667) and 80.2 percent more than those with high school diplomas (Figure FL-3).

Figure FL-2. Miami-Fort Lauderdale-West Palm Beach MSA mean earnings by education level



Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The percentage change in teal notes the difference from the next-highest level of education in the figure.

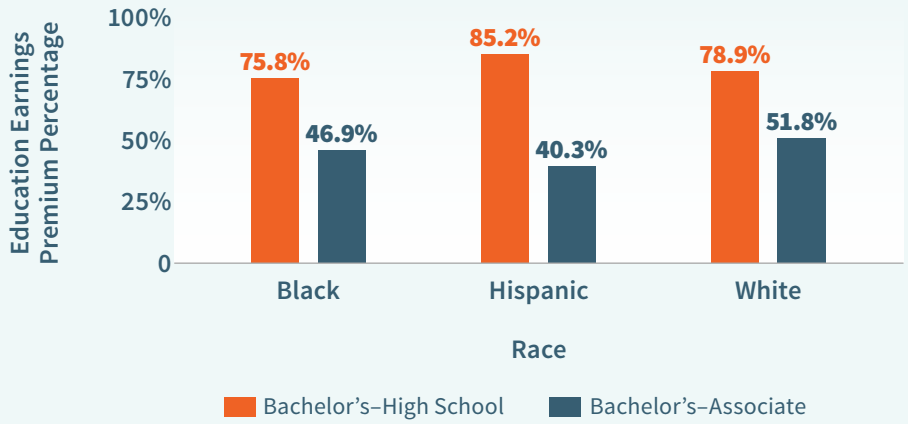
Figure FL-3. Tampa-St. Petersburg-Clearwater MSA mean earnings by education level



Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The percentage change in teal notes the difference from the next-highest level of education in the figure.

Education earnings premiums by race show that premiums are higher for black and white workers than for Hispanic workers. Black bachelor's degree holders in Florida earn 46.9 percent more than black workers with associate degrees and 75.8 percent more than black high school graduates in the state. Hispanic bachelor's degree holders earn 40.3 percent more than Hispanic workers with associate degrees and 85.2 percent more than Hispanic high school graduates in the state. For white workers in Florida, bachelor's degree holders enjoy a 51.8 percent premium over associate degree holders and a 78.9 percent earnings premium relative to high school graduates (Figure FL-4).

Figure FL-4. Education earnings premiums by race in Florida

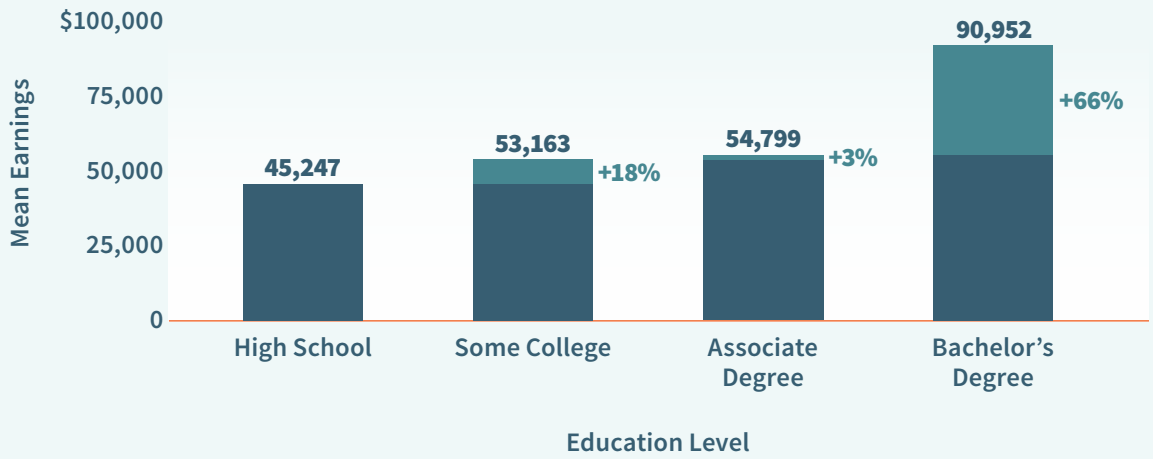


Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The analysis by race/ethnicity is restricted to those jurisdictions with at least ninety workers in the sample by both state and race/ethnicity for each of the three analyzed education groups (high school graduates, workers with associate degrees, and workers with bachelor's degrees).

Georgia

On average, Georgians with bachelor's degrees earn 66.0 percent more than those with associate degrees ($90,952 versus $54,799) and 101.0 percent more than those with high school diplomas (Figure GA-1).

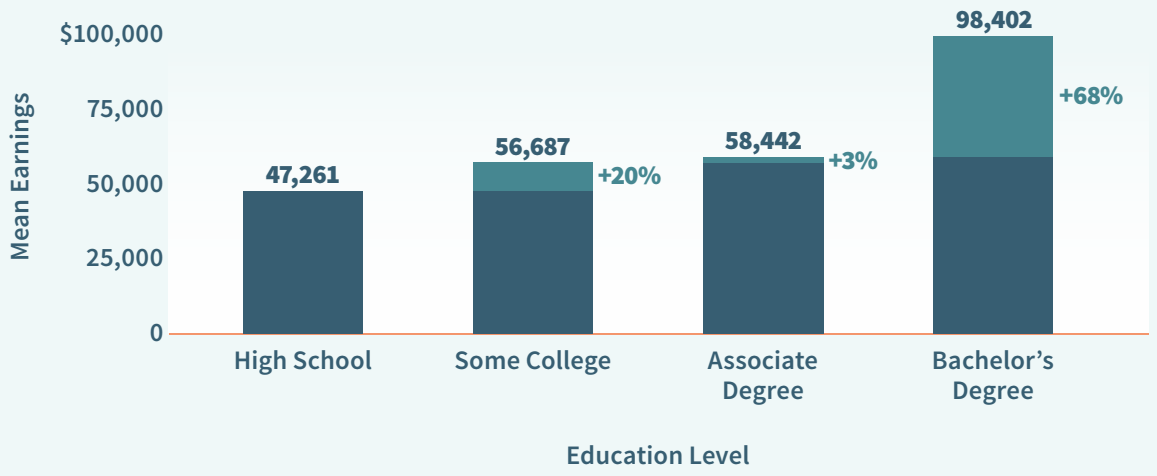
Figure GA-1. Georgia mean earnings by education level



Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The percentage change in teal notes the difference from the next-highest level of education in the figure.

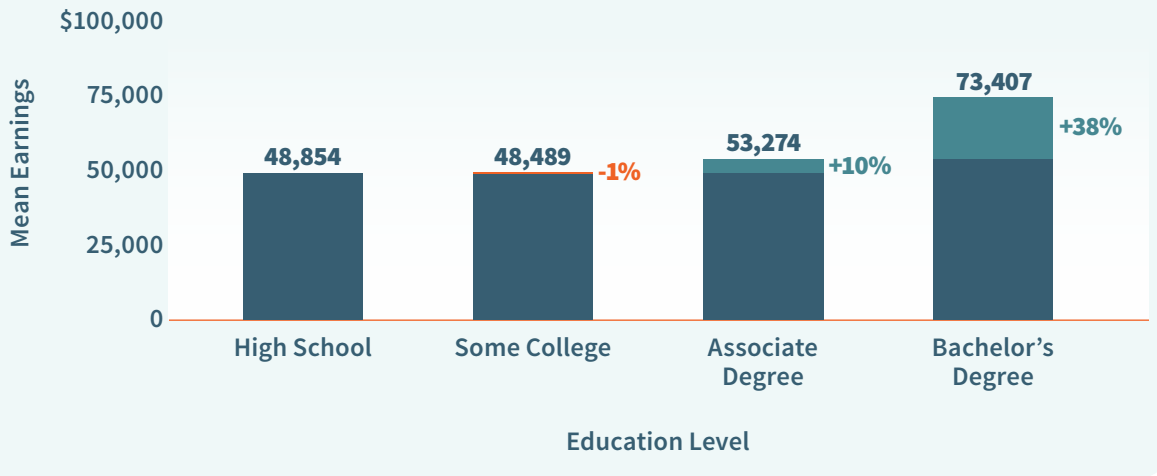
The largest MSA in Georgia is Atlanta-Sandy Springs-Roswell. On average, workers with bachelor's degrees earn 68.4 percent more than those with associate degrees ($98,402 versus $58,442) and 108.2 percent more than those with high school diplomas (Figure GA-2). The second largest MSA in Georgia is Augusta-Richmond County. On average, workers with bachelor's degrees earn 37.8 percent more than those with associate degrees ($73,407 versus $53,274) and 50.3 percent more than those with high school diplomas (Figure GA-3).

Figure GA-2. Atlanta-Sandy Springs-Roswell MSA mean earnings by education level



Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The percentage change in teal notes the difference from the next-highest level of education in the figure.

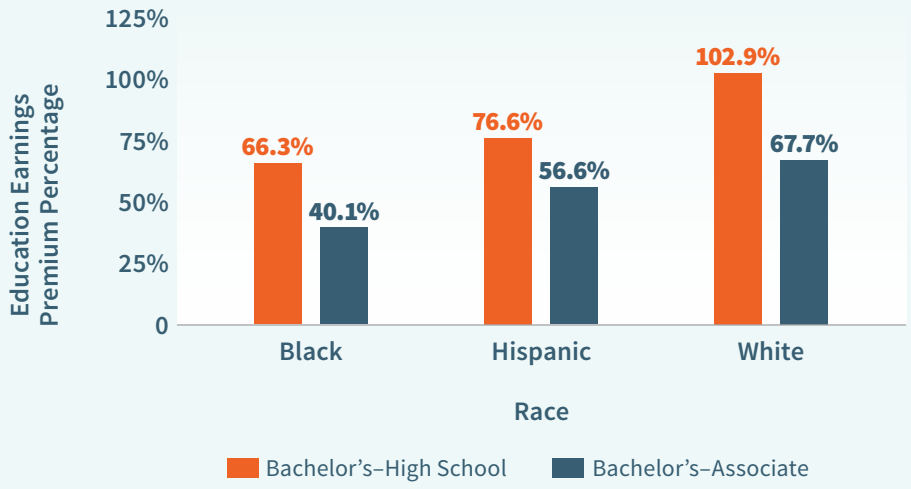
Figure GA-3. Augusta-Richmond County MSA mean earnings by education level



Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The percentage change in teal notes the increase from the next-highest level of education in the figure, and the percentage change in orange notes a decrease from the next-highest level of education.

Education earnings premiums by race show that premiums are higher for white workers than for black and Hispanic workers. Black bachelor's degree holders in Georgia earn 40.1 percent more than black workers with associate degrees and 66.3 percent more than black high school graduates in the state. Hispanic bachelor's degree holders earn 56.6 percent more than Hispanic workers with associate degrees and 76.6 percent more than Hispanic high school graduates in the state. For white workers in Georgia, bachelor's degree holders enjoy a 67.7 percent premium over associate degree holders and a 102.9 percent earnings premium relative to high school graduates (Figure GA-4).

Figure GA-4. Education earnings premiums by race in Georgia

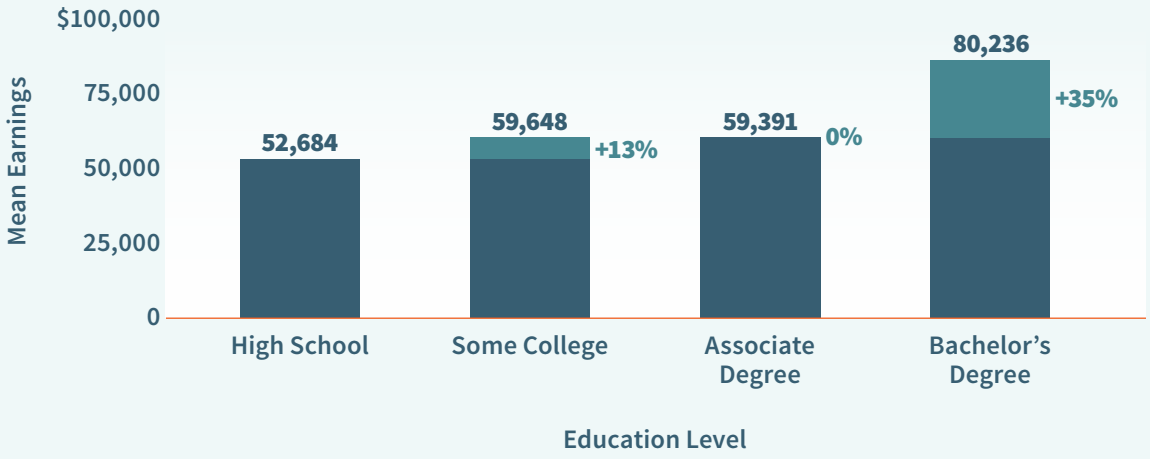


Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The analysis by race/ethnicity is restricted to those jurisdictions with at least ninety workers in the sample by both state and race/ethnicity for each of the three analyzed education groups (high school graduates, workers with associate degrees, and workers with bachelor's degrees).

Hawaii

On average, Hawaiians with bachelor's degrees earn 35.1 percent more than those with associate degrees ($80,236 versus $59,391) and 52.3 percent more than those with high school diplomas (Figure HI-1).

Figure HI-1. Hawaii mean earnings by education level

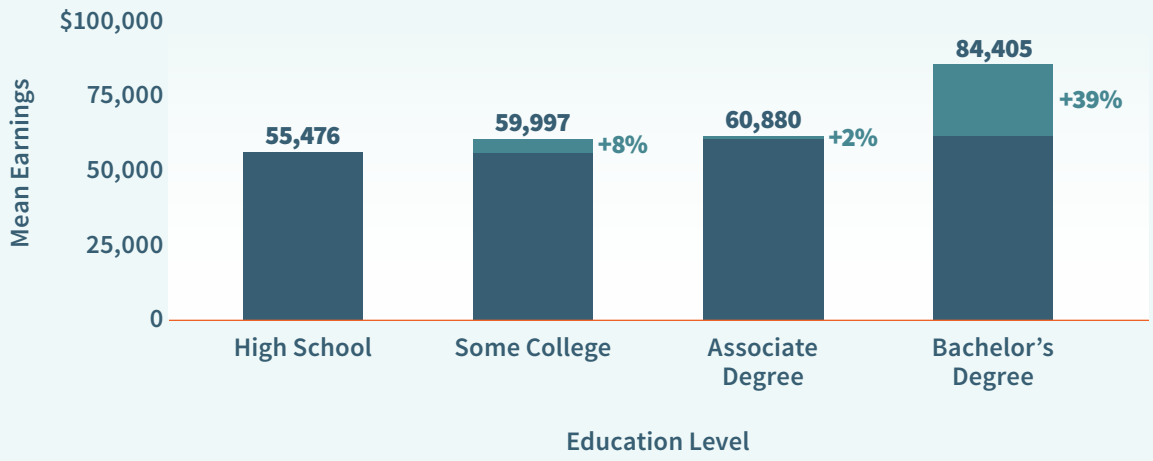


Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The percentage change in teal notes the increase from the next-highest level of education in the figure.

The largest MSA in Hawaii is Urban Honolulu.[1] On average, workers with bachelor's degrees earn 38.6 percent more than those with associate degrees ($84,405 versus $60,880) and 52.1 percent more than those with high school diplomas (Figure HI-2). Education earnings premiums by race show that the bachelor's premium versus a high school diploma is similar for Asian and white workers, but the bachelor's premium versus an associate degree is higher for white workers than for Asian workers. Asian bachelor's degree holders in Hawaii earn 25.1 percent more than Asian workers with associate degrees and 49.7 percent more than Asian high school graduates in the state. For white workers in Hawaii, bachelor's degree holders enjoy a 46.7 percent premium over associate degree holders and a 48.0 percent earnings premium relative to high school graduates (Figure HI-3).

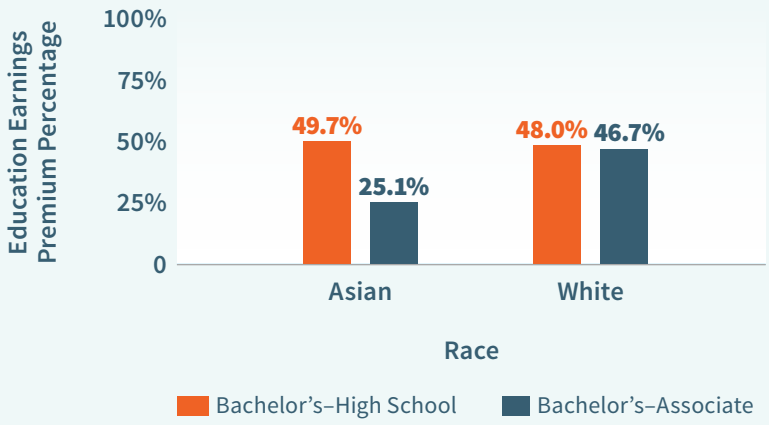
1. Data for a second MSA are reported only when a state has more than one large MSA, defined as a metro area with population greater than 500,000.

Figure HI-2. Urban Honolulu MSA mean earnings by education level



Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The percentage change in teal notes the difference from the next-highest level of education in the figure.

Figure HI-3. Education earnings premiums by race in Hawaii



Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The analysis by race/ethnicity is restricted to those jurisdictions with at least ninety workers in the sample by both state and race/ethnicity for each of the three analyzed education groups (high school graduates, workers with associate degrees, and workers with bachelor's degrees).

Idaho

On average, Idahoans with bachelor's degrees earn 39.9 percent more than those with associate degrees ($79,114 versus $56,550) and 67.7 percent more than those with high school diplomas (Figure ID-1). The largest MSA in Idaho is Boise.[1] On average, workers with bachelor's degrees earn 38.2 percent more than those with associate degrees ($82,784 versus $59,897) and 83.9 percent more than those with high school diplomas (Figure ID-2).

Figure ID-1. Idaho mean earnings by education level

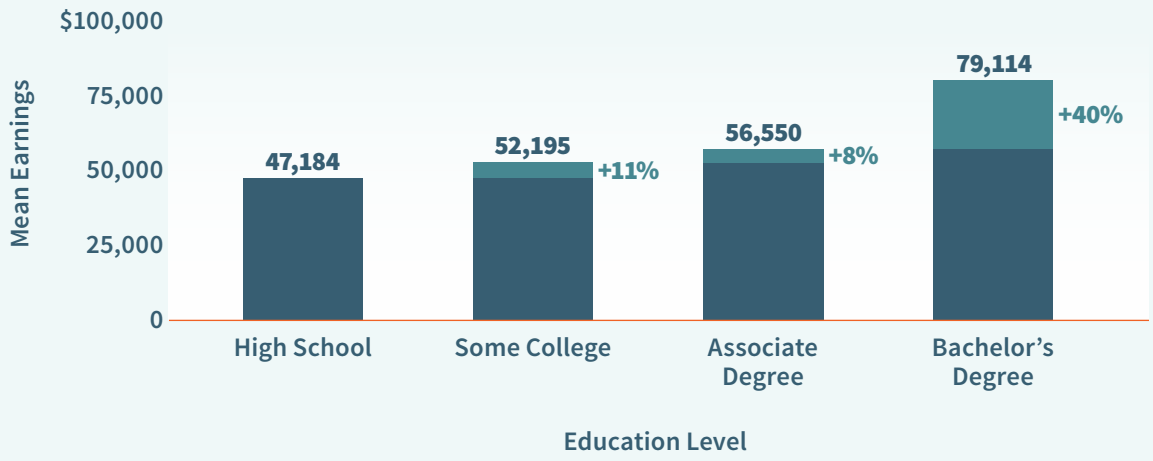
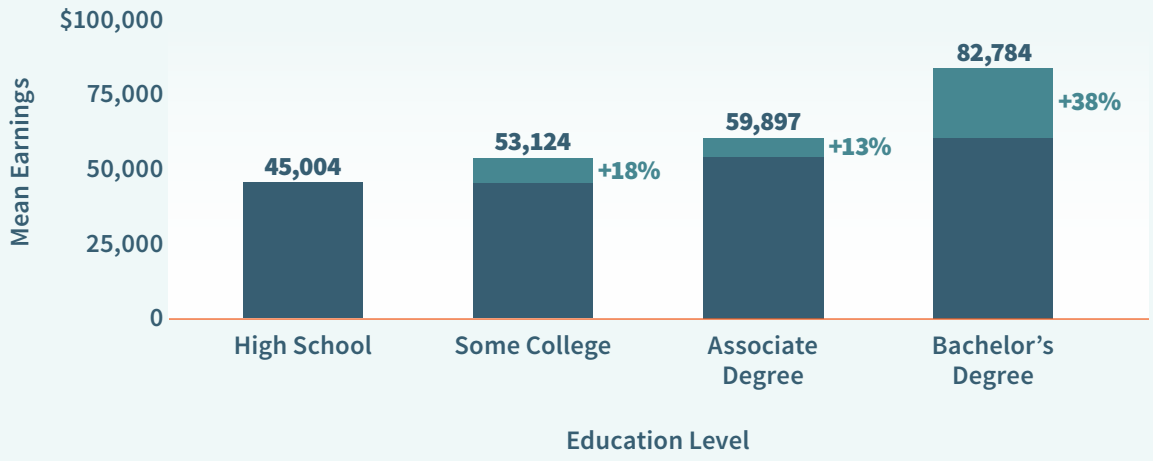


Figure ID-2. Boise MSA mean earnings by education level



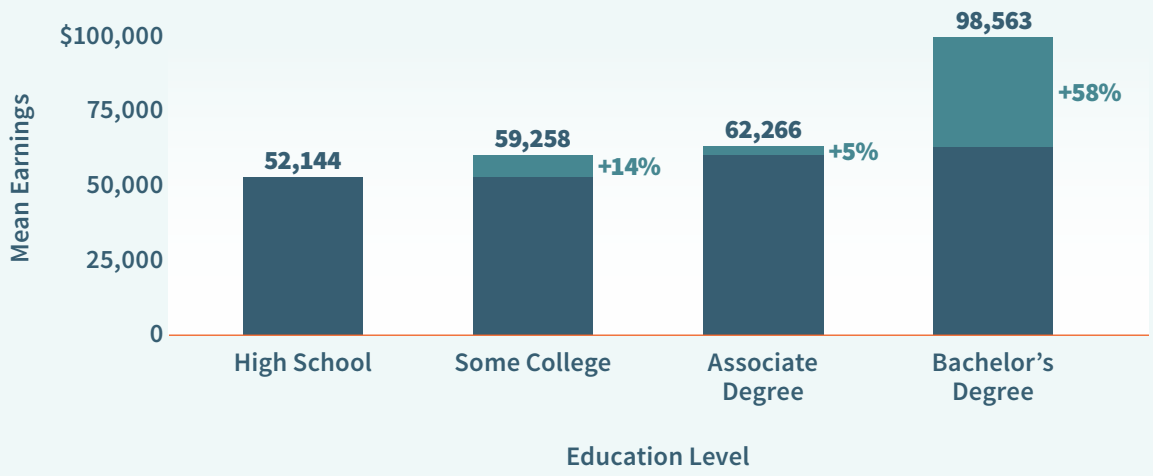
Note: Based on author's calculations from the American Community Survey. The samples are limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The percentage change in teal notes the difference from the next-highest level of education in the figure.

1. Data for a second MSA are reported only when a state has more than one large MSA, defined as a metro area with population greater than 500,000.

Illinois

On average, Illinoisans with bachelor's degrees earn 58.3 percent more than those with associate degrees ($98,563 versus $62,266) and 89.0 percent more than those with high school diplomas (Figure IL-1).

Figure IL-1. Illinois mean earnings by education level

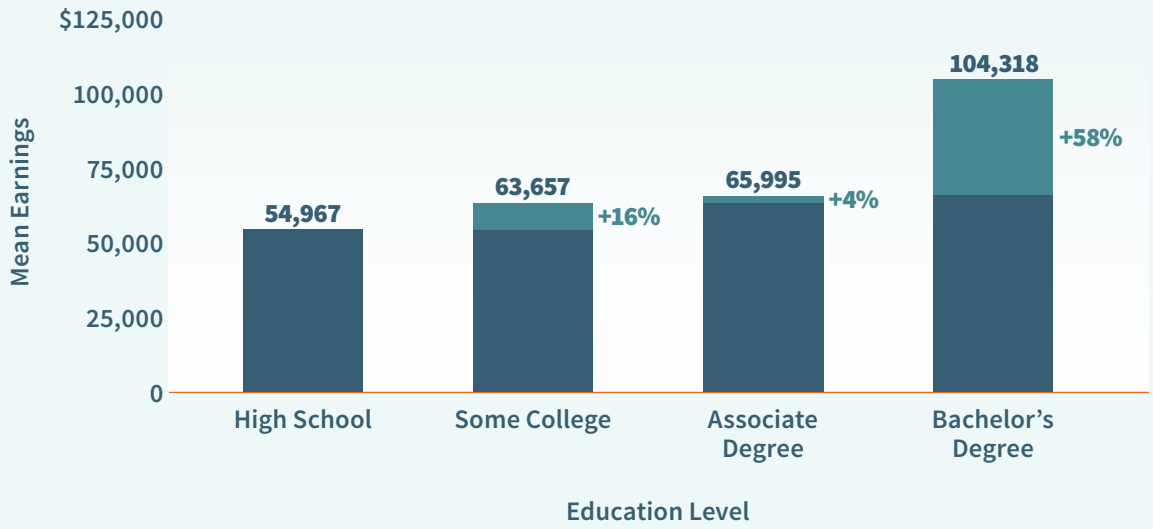


Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The percentage change in teal notes the difference from the next-highest level of education in the figure.

The largest MSA in Illinois is Chicago-Naperville-Elgin.[1] On average, workers with bachelor's degrees earn 58.1 percent more than those with associate degrees ($104,318 versus $65,995) and 89.8 percent more than those with high school diplomas (Figure IL-2). Education earnings premiums by race show that premiums are higher for white workers than for black and Hispanic workers. Black bachelor's degree holders in Illinois earn 24.5 percent more than black workers with associate degrees and 53.2 percent more than black high school graduates in the state. Hispanic bachelor's degree holders earn 40.5 percent more than Hispanic workers with associate degrees and 70.5 percent more than Hispanic high school graduates in the state. For white workers in Illinois, bachelor's degree holders enjoy a 60.3 percent premium over associate degree holders and an 89.1 percent earnings premium relative to high school graduates (Figure IL-3).

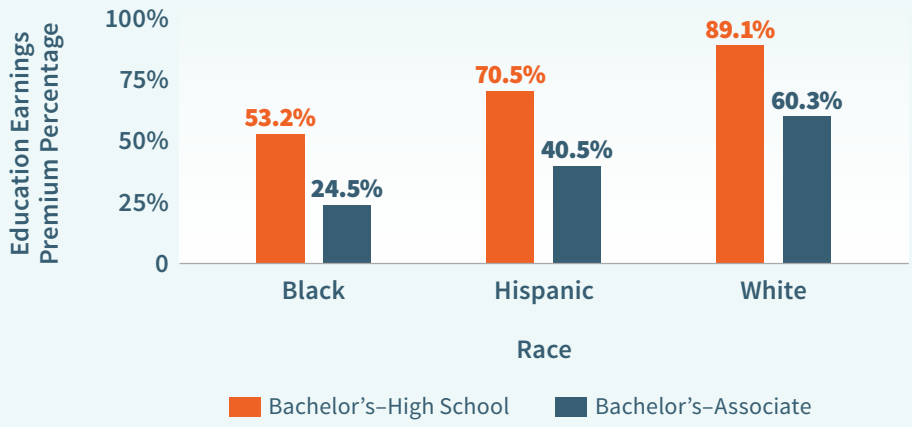
1. Data for a second MSA are reported only when a state has more than one large MSA, defined as a metro area with population greater than 500,000.

Figure IL-2. Chicago-Naperville-Elgin MSA mean earnings by education level



Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The percentage change in teal notes the difference from the next-highest level of education in the figure.

Figure IL-3. Education earnings premiums by race in Illinois

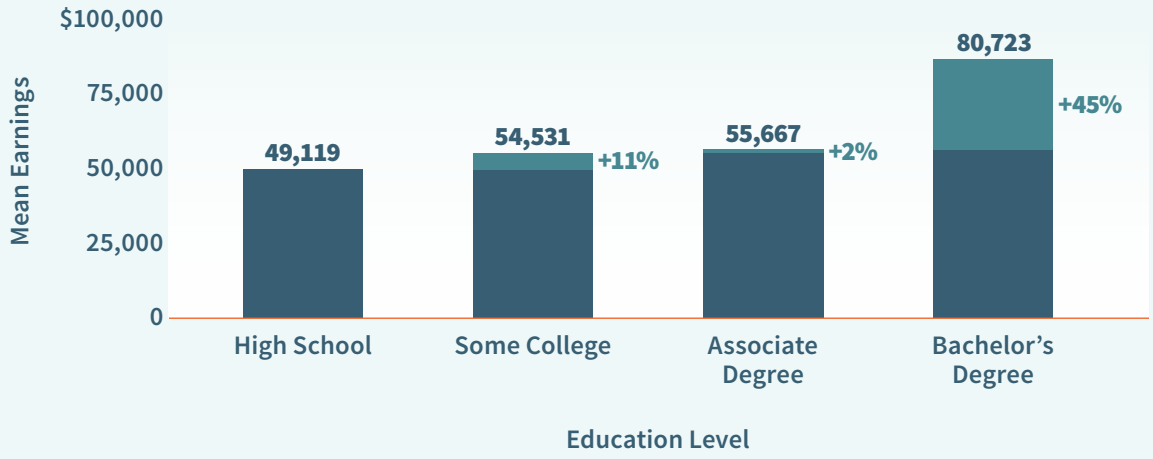


Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The analysis by race/ethnicity is restricted to those jurisdictions with at least ninety workers in the sample by both state and race/ethnicity for each of the three analyzed education groups (high school graduates, workers with associate degrees, and workers with bachelor's degrees).

Indiana

On average, Indianans with bachelor's degrees earn 45.0 percent more than those with associate degrees ($80,723 versus $55,667) and 64.3 percent more than those with high school diplomas (Figure IN-1).

Figure IN-1. Indiana mean earnings by education level

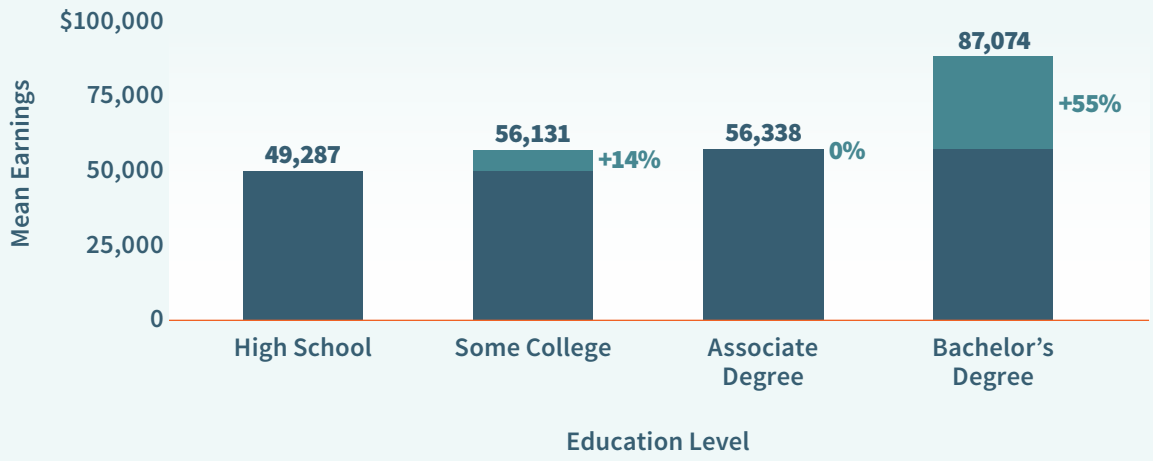


Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The percentage change in teal notes the difference from the next-highest level of education in the figure.

The largest MSA in Indiana is Indianapolis-Carmel-Anderson.[1] On average, workers with bachelor's degrees earn 54.6 percent more than those with associate degrees ($87,074 versus $56,338) and 76.7 percent more than those with high school diplomas (Figure IN-2). Education earnings premiums by race show that premiums are higher for white workers than for black and Hispanic workers. Black bachelor's degree holders in Indiana earn 22.3 percent more than black workers with associate degrees and 48.8 percent more than black high school graduates in the state. Hispanic bachelor's degree holders earn 17.3 percent more than Hispanic workers with associate degrees and 26.3 percent more than Hispanic high school graduates in the state. For white workers in Indiana, bachelor's degree holders enjoy a 46.6 percent premium over associate degree holders and a 65.7 percent earnings premium relative to high school graduates (Figure IN-3).

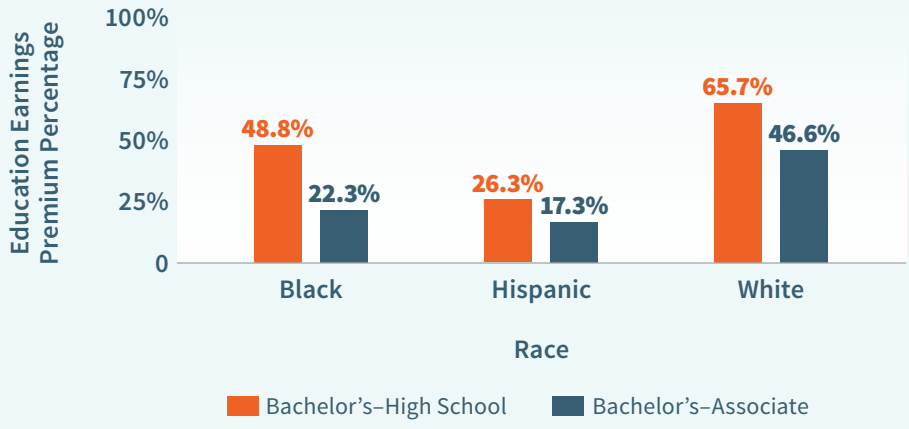
1. Data for a second MSA are reported only when a state has more than one large MSA, defined as a metro area with population greater than 500,000.

Figure IN-2. Indianapolis-Carmel-Anderson MSA mean earnings by education level



Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The percentage change in teal notes the difference from the next-highest level of education in the figure.

Figure IN-3. Education earnings premiums by race in Indiana



Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The analysis by race/ethnicity is restricted to those jurisdictions with at least ninety workers in the sample by both state and race/ethnicity for each of the three analyzed education groups (high school graduates, workers with associate degrees, and workers with bachelor's degrees).

Iowa

On average, Iowans with bachelor's degrees earn 38.6 percent more than those with associate degrees ($77,259 versus $55,755) and 50.8 percent more than those with high school diplomas (Figure IA-1). The largest MSA in Iowa is Des Moines-West Des Moines.[1] On average, workers with bachelor's degrees earn 44.4 percent more than those with associate degrees ($87,434 versus $60,548) and 67.1 percent more than those with high school diplomas (Figure IA-2).

Figure IA-1. Iowa mean earnings by education level

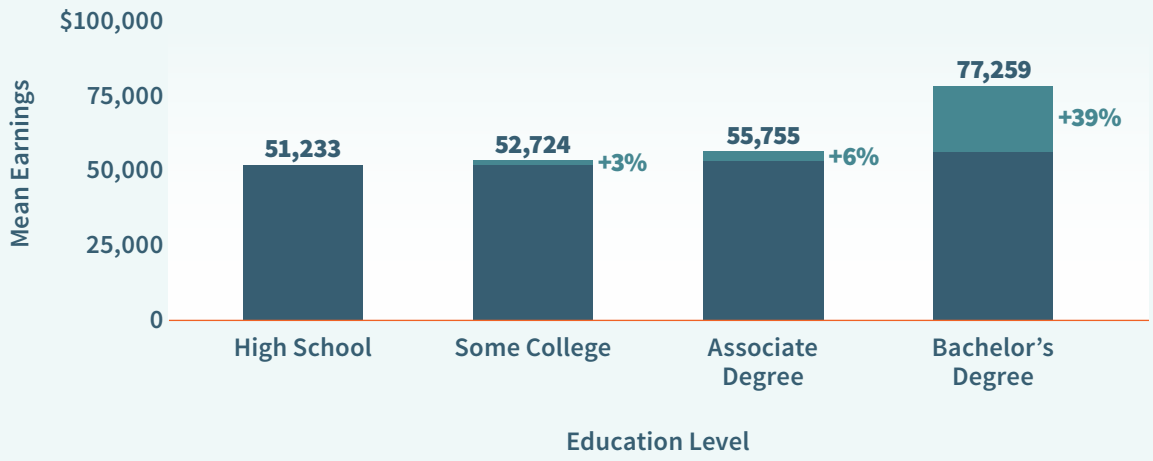
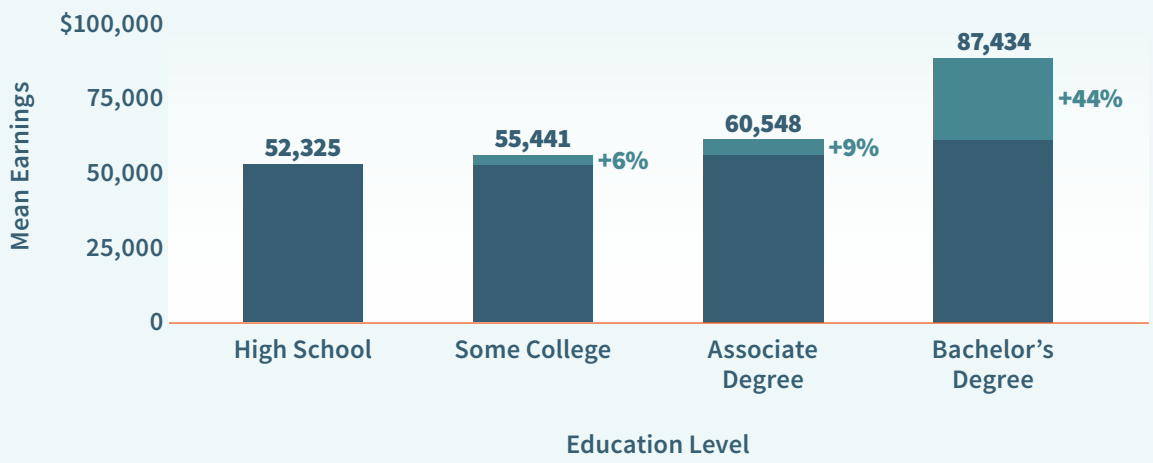


Figure IA-2. Des Moines-West Des Moines MSA mean earnings by education level



Note: Based on author's calculations from the American Community Survey. The samples are limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The percentage change in teal notes the difference from the next-highest level of education in the figure.

1. Data for a second MSA are reported only when a state has more than one large MSA, defined as a metro area with population greater than 500,000.

Kansas

On average, Kansans with bachelor's degrees earn 49.3 percent more than those with associate degrees ($82,470 versus $55,238) and 74.4 percent more than those with high school diplomas (Figure KS-1). The largest MSA in Kansas is Wichita.[1] On average, workers with bachelor's degrees earn 47.2 percent more than those with associate degrees ($78,933 versus $53,635) and 70.1 percent more than those with high school diplomas (Figure KS-2).

Figure KS-1. Kansas mean earnings by education level

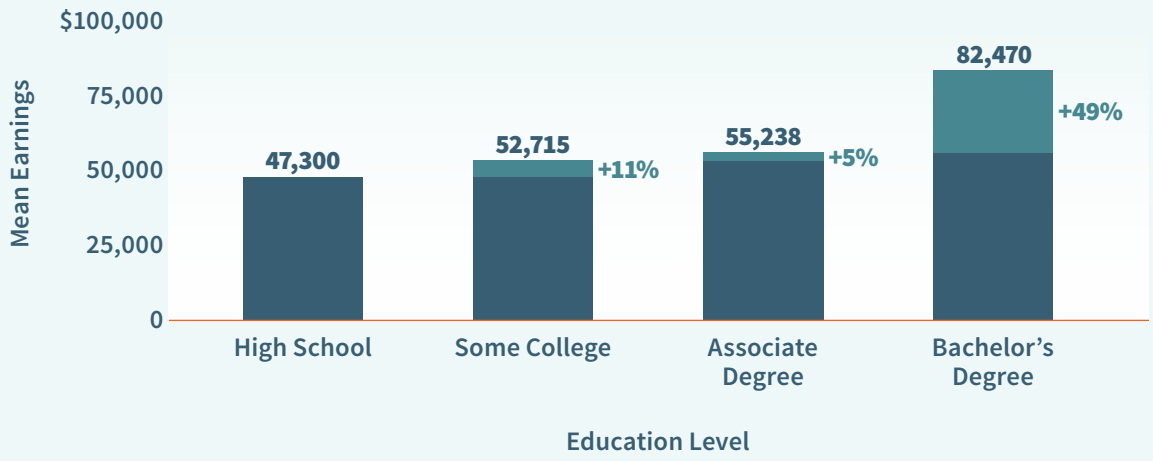
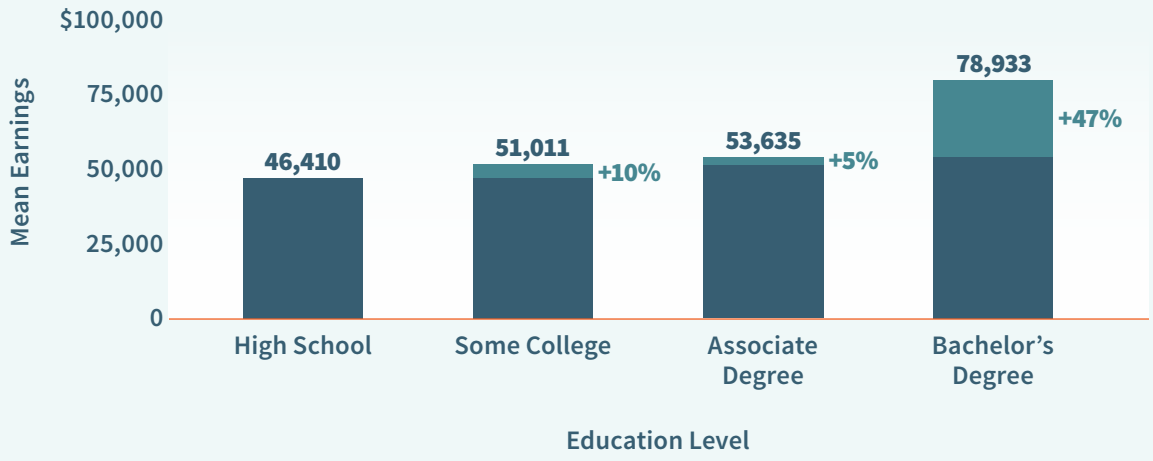


Figure KS-2. Wichita MSA mean earnings by education level



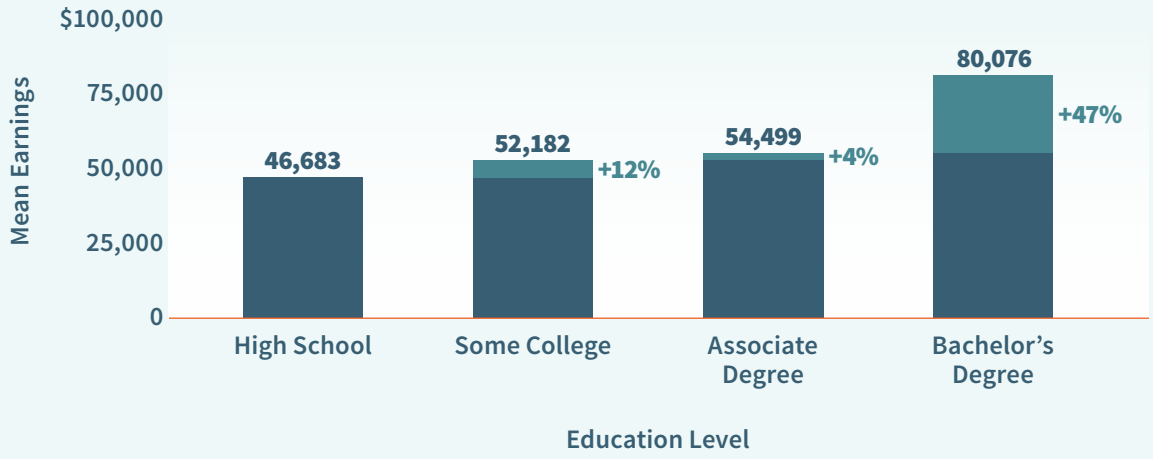
Note: Based on author's calculations from the American Community Survey. The samples are limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The percentage change in teal notes the difference from the next-highest level of education in the figure.

1. Data for a second MSA are reported only when a state has more than one large MSA, defined as a metro area with population greater than 500,000.

Kentucky

On average, Kentuckians with bachelor's degrees earn 46.9 percent more than those with associate degrees ($80,076 versus $54,499) and 71.5 percent more than those with high school diplomas (Figure KY-1).

Figure KY-1. Kentucky mean earnings by education level

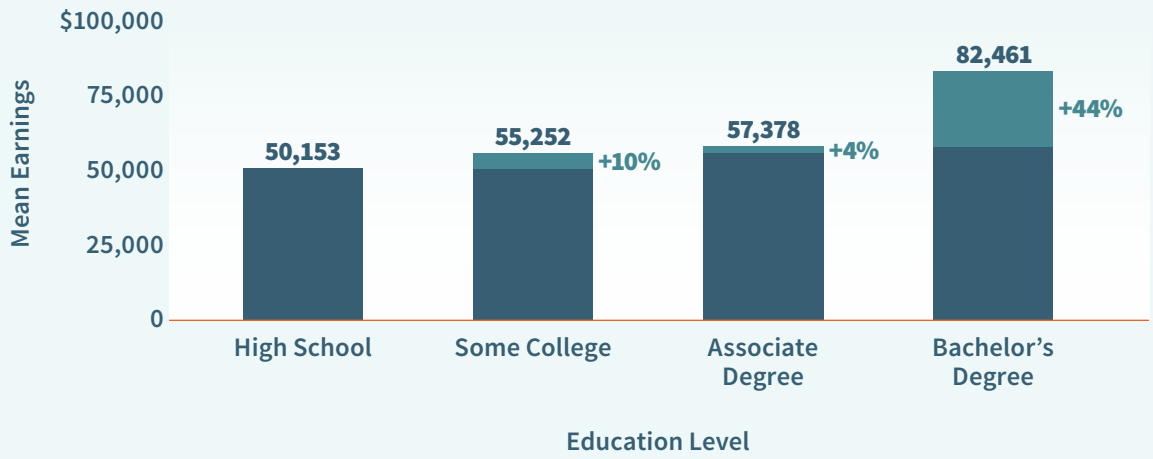


Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The percentage change in teal notes the difference from the next-highest level of education in the figure.

The largest MSA in Kentucky is Louisville-Jefferson County.[1] On average, workers with bachelor's degrees earn 43.7 percent more than those with associate degrees ($82,461 versus $57,378) and 64.4 percent more than those with high school diplomas (Figure KY-2). Education earnings premiums by race show that premiums are higher for white workers than for black workers. Black bachelor's degree holders in Kentucky earn 29.9 percent more than black workers with associate degrees and 55.8 percent more than black high school graduates in the state. For white workers in Kentucky, bachelor's degree holders enjoy a 48.1 percent premium over associate degree holders and a 72.9 percent earnings premium relative to high school graduates (Figure KY-3).

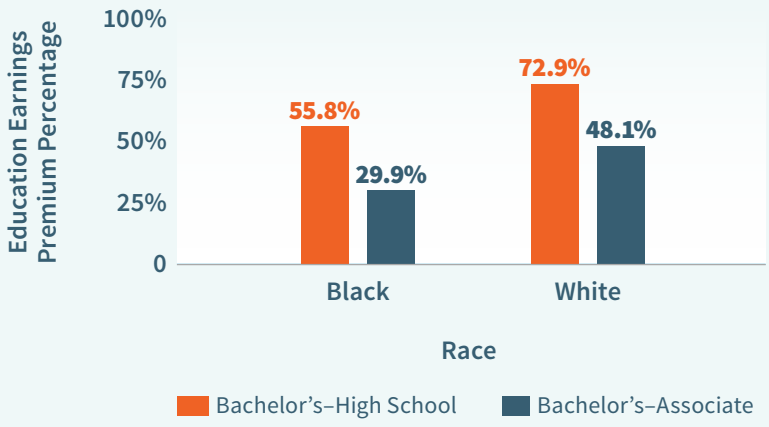
1. Data for a second MSA are reported only when a state has more than one large MSA, defined as a metro area with population greater than 500,000.

Figure KY-2. Louisville-Jefferson County MSA mean earnings by education level



Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The percentage change in teal notes the difference from the next-highest level of education in the figure.

Figure KY-3. Education earnings premiums by race in Kentucky

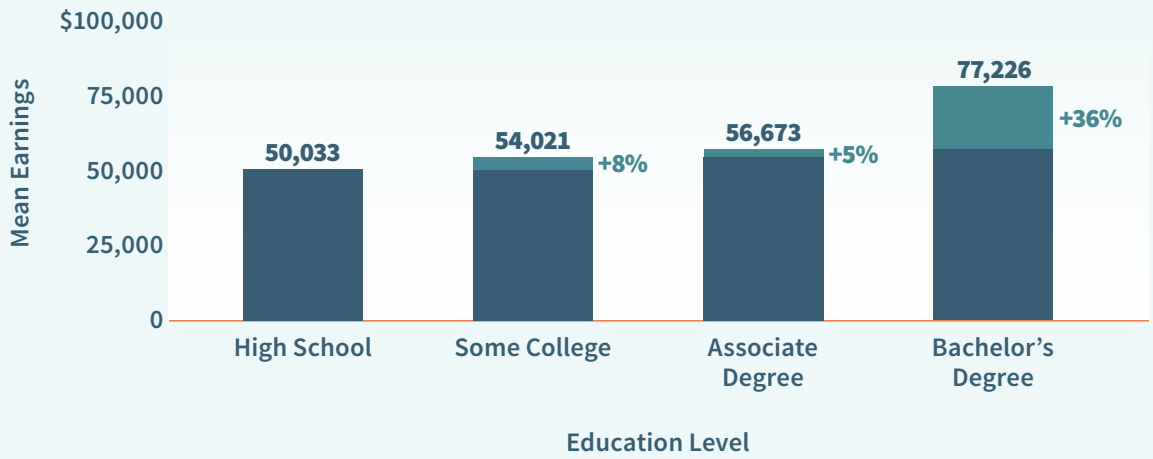


Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The analysis by race/ethnicity is restricted to those jurisdictions with at least ninety workers in the sample by both state and race/ethnicity for each of the three analyzed education groups (high school graduates, workers with associate degrees, and workers with bachelor's degrees).

Louisiana

On average, Louisianians with bachelor's degrees earn 36.3 percent more than those with associate degrees ($77,226 versus $56,673) and 54.4 percent more than those with high school diplomas (Figure LA-1).

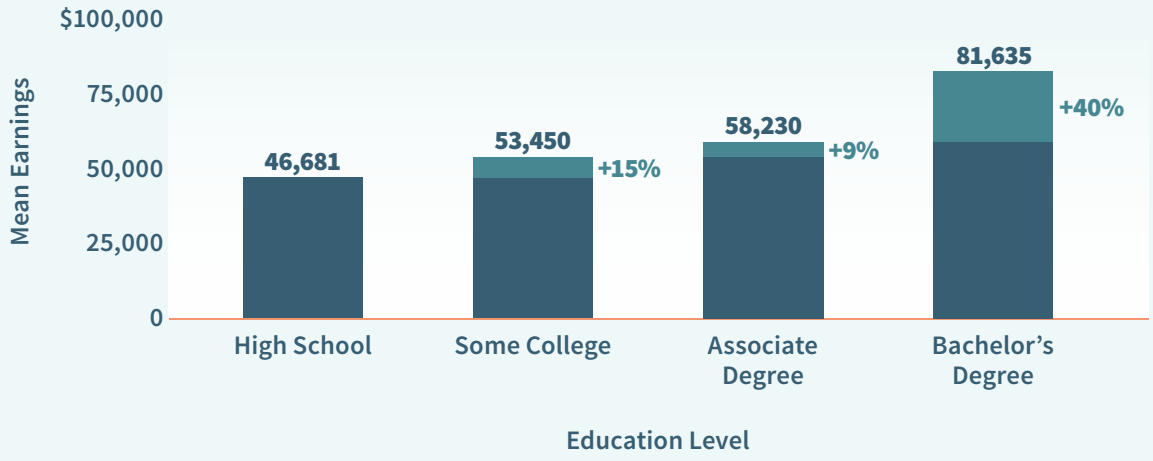
Figure LA-1. Louisiana mean earnings by education level



Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The percentage change in teal notes the difference from the next-highest level of education in the figure.

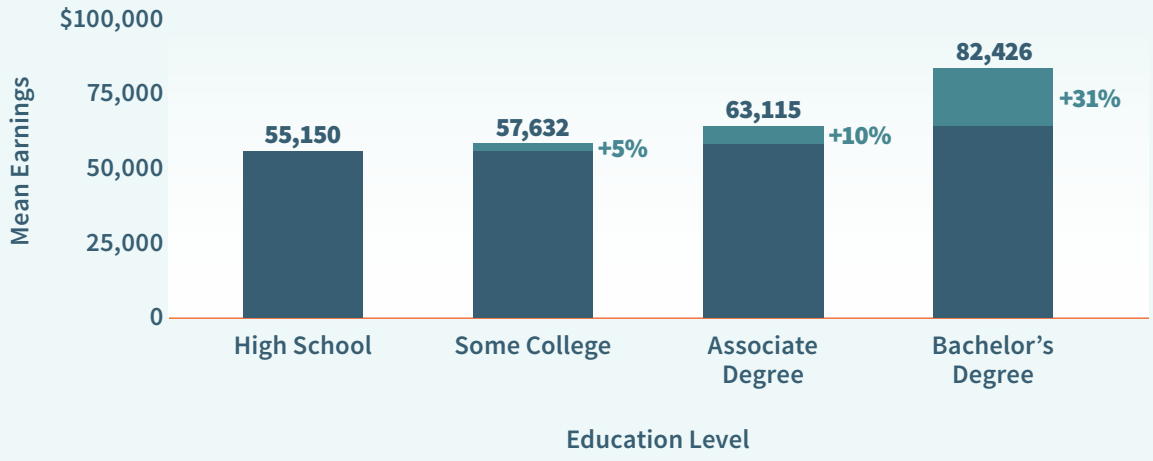
The largest MSA in Louisiana is New Orleans-Metairie. On average, workers with bachelor's degrees earn 40.2 percent more than those with associate degrees ($81,635 versus $58,230) and 74.9 percent more than those with high school diplomas (Figure LA-2). The second largest MSA in Louisiana is Baton Rouge. On average, workers with bachelor's degrees earn 30.6 percent more than those with associate degrees ($82,426 versus $63,115) and 49.5 percent more than those with high school diplomas (Figure LA-3).

Figure LA-2. New Orleans-Metairie MSA mean earnings by education level



Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The percentage change in teal notes the difference from the next-highest level of education in the figure.

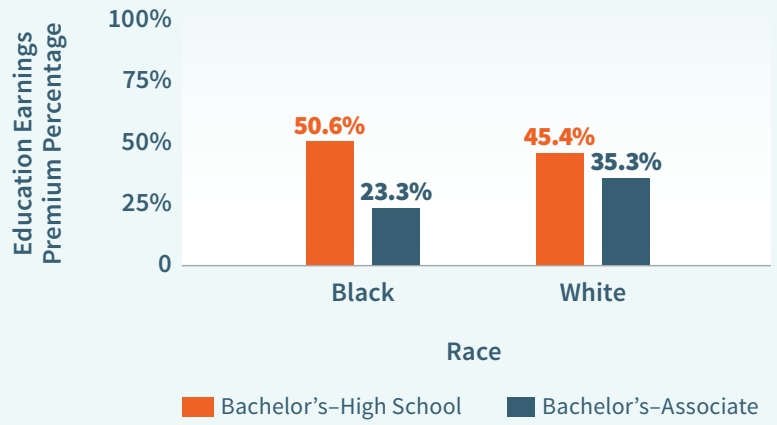
Figure LA-3. Baton Rouge MSA mean earnings by education level



Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The percentage change in teal notes the difference from the next-highest level of education in the figure.

Education earnings premiums by race show that the bachelor's premium versus a high school diploma is higher for black workers than for white workers, but the bachelor's premium versus an associate degree is higher for white workers than for black workers. Black bachelor's degree holders in Louisiana earn 23.3 percent more than black workers with associate degrees and 50.6 percent more than black high school graduates in the state. For white workers in Louisiana, bachelor's degree holders enjoy a 35.3 percent premium over associate degree holders and a 45.4 percent earnings premium relative to high school graduates (Figure LA-4).

Figure LA-4. Education earnings premiums by race in Louisiana



Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The analysis by race/ethnicity is restricted to those jurisdictions with at least ninety workers in the sample by both state and race/ethnicity for each of the three analyzed education groups (high school graduates, workers with associate degrees, and workers with bachelor's degrees).

Maine

On average, Mainers with bachelor's degrees earn 40.9 percent more than those with associate degrees ($75,475 versus $53,560) and 61.0 percent more than those with high school diplomas (Figure ME-1). The largest MSA in Maine is Portland-South Portland.[1] On average, workers with bachelor's degrees earn 56.6 percent more than those with associate degrees ($85,333 versus $54,498) and 75.8 percent more than those with high school diplomas (Figure ME-2).

Figure ME-1. Maine mean earnings by education level

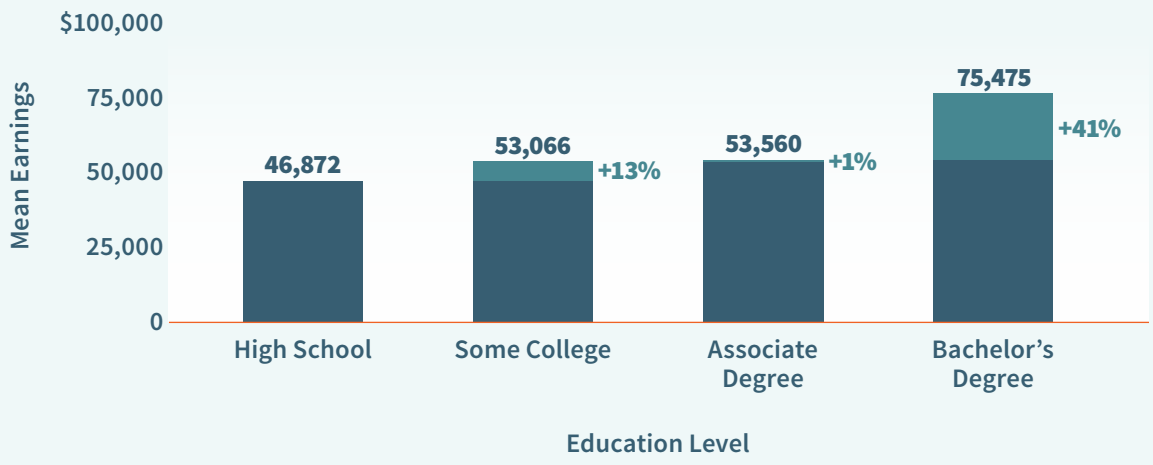
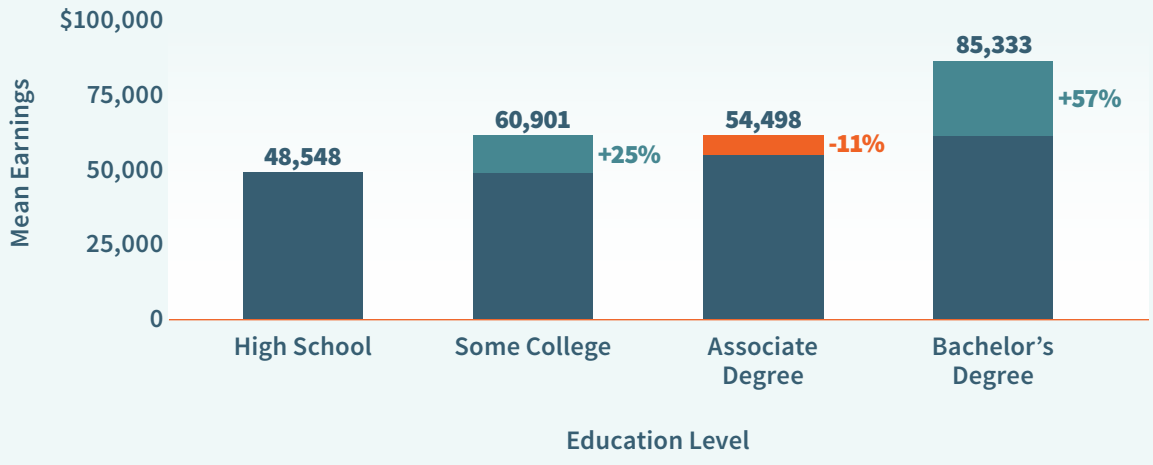


Figure ME-2. Portland-South Portland MSA mean earnings by education level



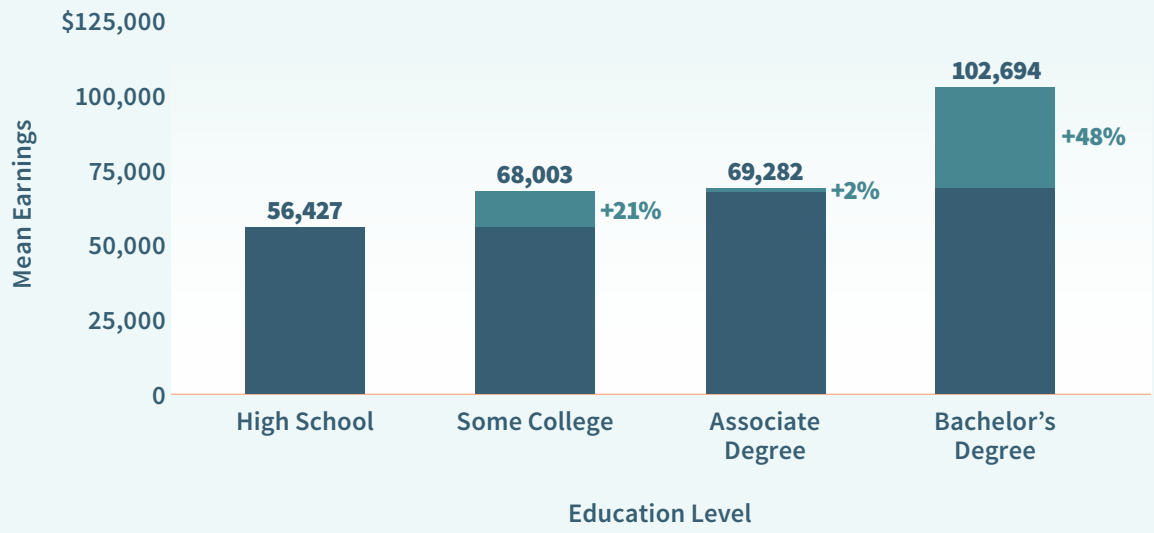
Note: Based on author's calculations from the American Community Survey. The samples are limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The percentage change in teal notes the increase from the next-highest level of education in the figure, and the percentage change in orange notes a decrease from the next-highest level of education.

1. Data for a second MSA are reported only when a state has more than one large MSA, defined as a metro area with population greater than 500,000.

Maryland

On average, Marylanders with bachelor's degrees earn 48.2 percent more than those with associate degrees ($102,694 versus $69,282) and 82.0 percent more than those with high school diplomas (Figure MD-1).

Figure MD-1. Maryland mean earnings by education level

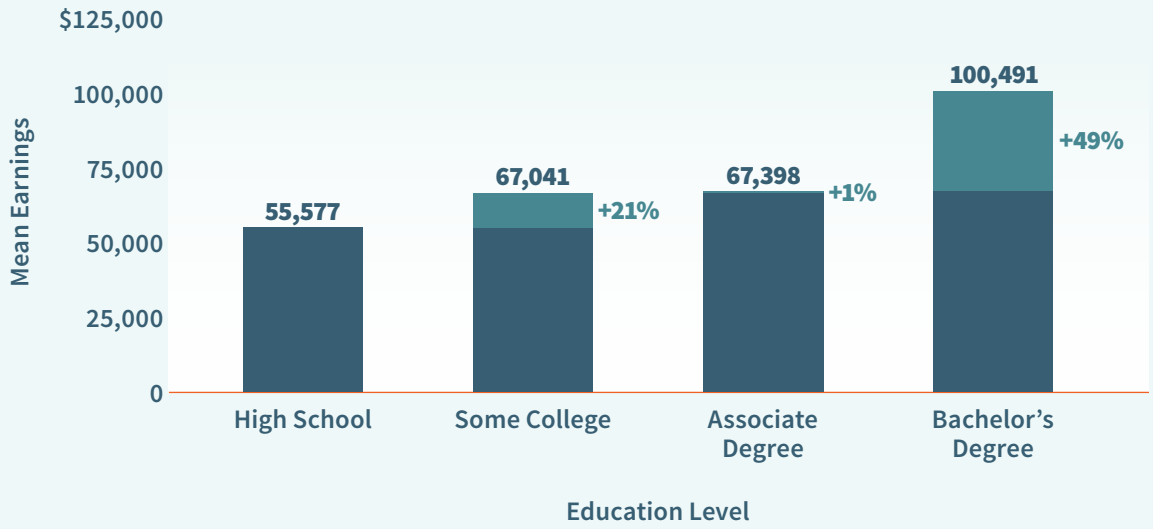


Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The percentage change in teal notes the difference from the next-highest level of education in the figure.

The largest MSA in Maryland is Baltimore-Columbia-Towson. On average, workers with bachelor's degrees earn 49.1 percent more than those with associate degrees ($100,491 versus $67,398) and 80.8 percent more than those with high school diplomas (Figure MD-2). Education earnings premiums by race show that premiums are higher for white workers than for black workers. Black bachelor's degree holders in Maryland earn 29.0 percent more than black workers with associate degrees and 60.9 percent more than black high school graduates in the state. For white workers in Maryland, bachelor's degree holders enjoy a 52.6 percent premium over associate degree holders and an 84.7 percent earnings premium relative to high school graduates (Figure MD-3).

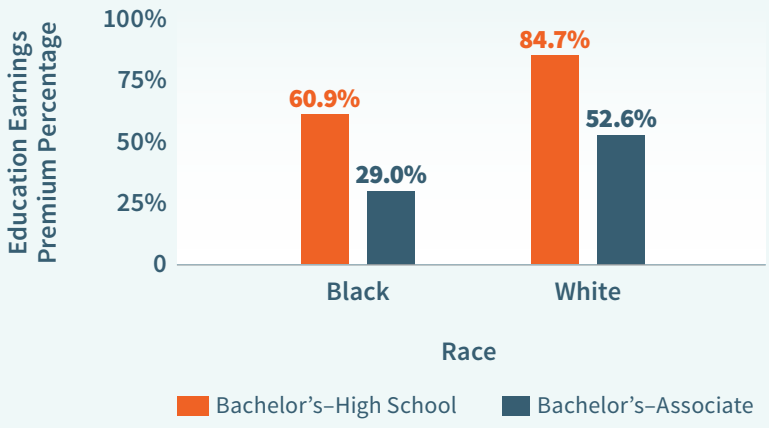
1. Data for a second MSA are reported only when a state has more than one large MSA, defined as a metro area with population greater than 500,000.

Figure MD-2. Baltimore-Columbia-Towson MSA mean earnings by education level



Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The percentage change in teal notes the difference from the next-highest level of education in the figure.

Figure MD-3. Education earnings premiums by race in Maryland

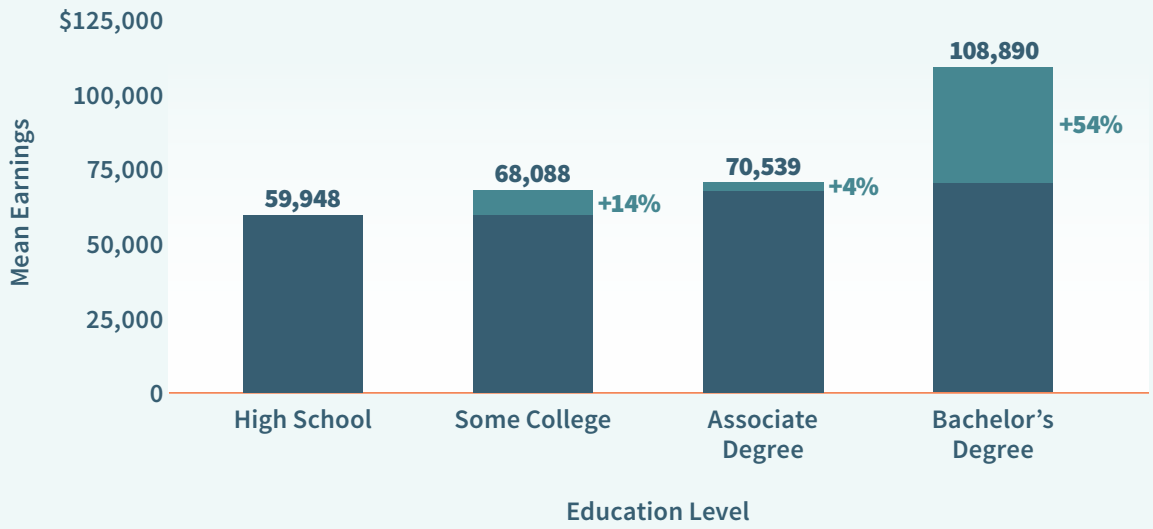


Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The analysis by race/ethnicity is restricted to those jurisdictions with at least ninety workers in the sample by both state and race/ethnicity for each of the three analyzed education groups (high school graduates, workers with associate degrees, and workers with bachelor's degrees).

Massachusetts

On average, Massachusettsans with bachelor's degrees earn 54.4 percent more than those with associate degrees ($108,890 versus $70,539) and 81.6 percent more than those with high school diplomas (Figure MA-1).

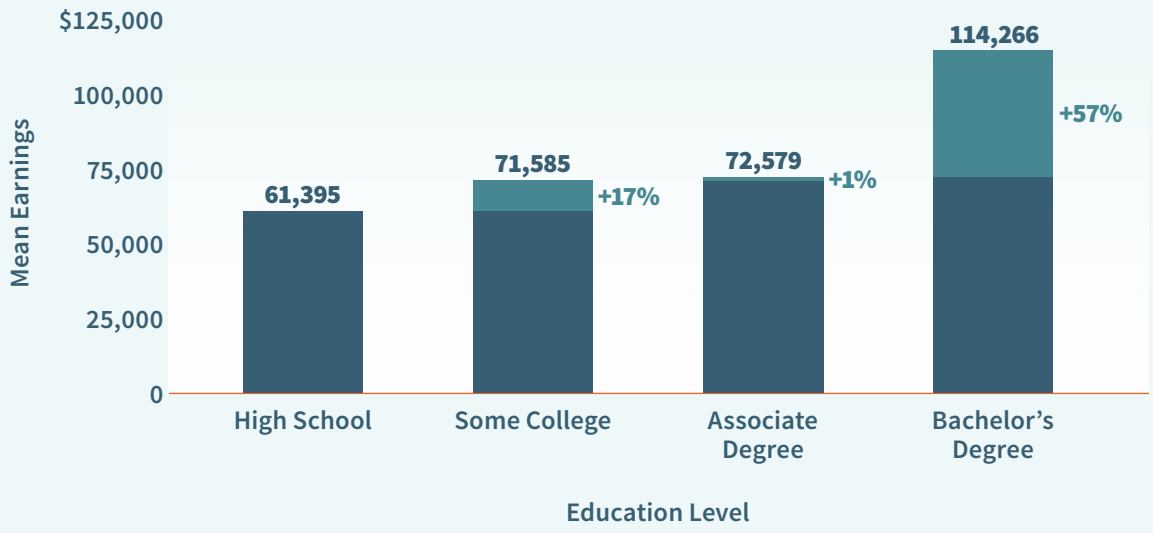
Figure MA-1. Massachusetts mean earnings by education level



Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The percentage change in teal notes the difference from the next-highest level of education in the figure.

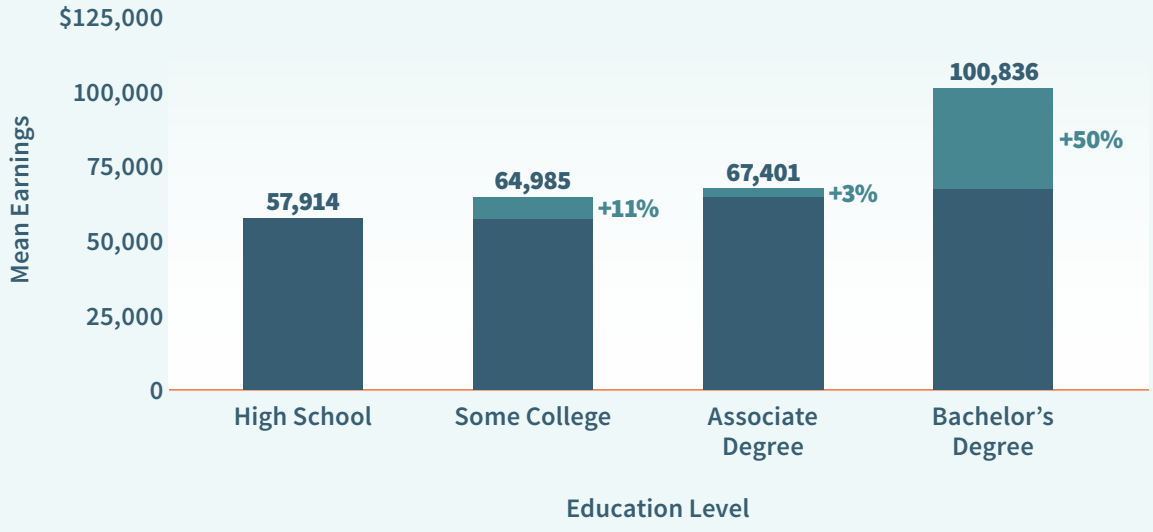
The largest MSA in Massachusetts is Boston-Cambridge-Newton. On average, workers with bachelor's degrees earn 57.4 percent more than those with associate degrees ($114,266 versus $72,579) and 86.1 percent more than those with high school diplomas (Figure MA-2). The second largest MSA in Massachusetts is Worcester. On average, workers with bachelor's degrees earn 49.6 percent more than those with associate degrees ($100,836 versus $67,401) and 74.1 percent more than those with high school diplomas (Figure MA-3).

Figure MA-2. Boston-Cambridge-Newton MSA mean earnings by education level



Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The percentage change in teal notes the difference from the next-highest level of education in the figure.

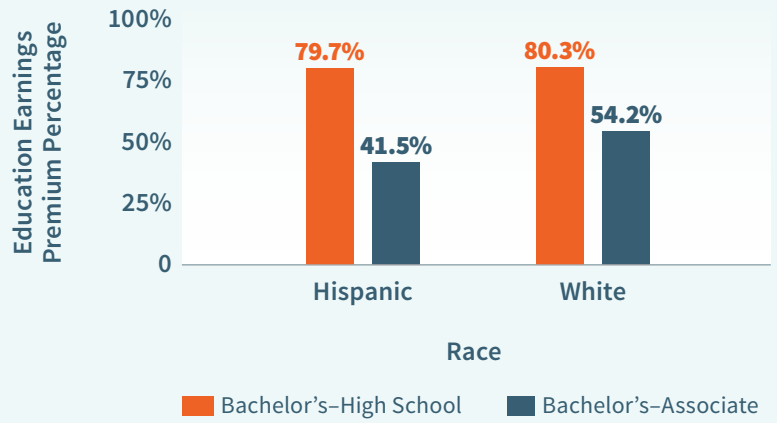
Figure MA-3. Worcester MSA mean earnings by education level



Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The percentage change in teal notes the difference from the next-highest level of education in the figure.

Education earnings premiums by race show that the bachelor's premium versus a high school diploma is similar for Hispanic and white workers, but the bachelor's premium versus an associate degree is higher for white workers than for Hispanic workers. Hispanic bachelor's degree holders in Massachusetts earn 41.5 percent more than Hispanic workers with associate degrees and 79.7 percent more than Hispanic high school graduates in the state. For white workers in Massachusetts, bachelor's degree holders enjoy a 54.2 percent premium over associate degree holders and an 80.3 percent earnings premium relative to high school graduates (Figure MA-4).

Figure MA-4. Education earnings premiums by race in Massachusetts

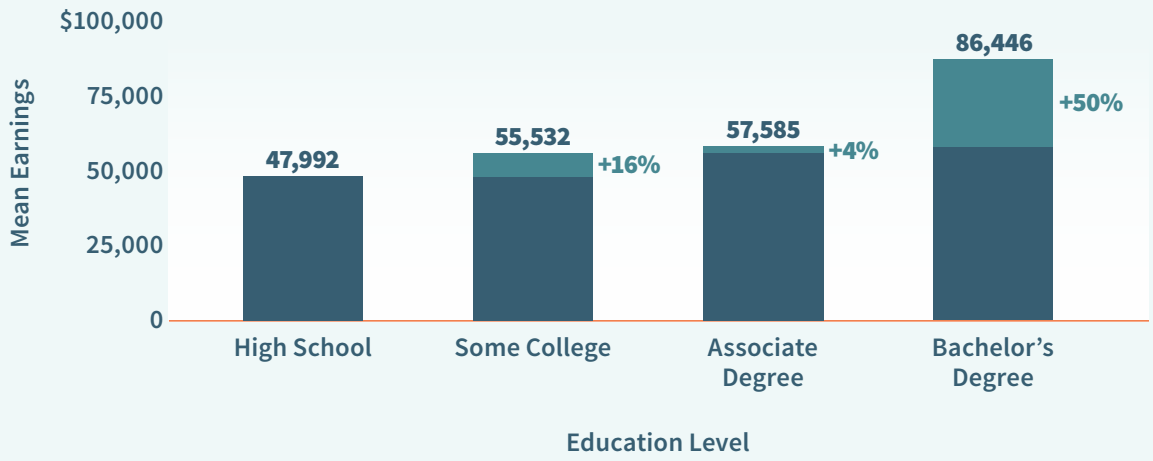


Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The analysis by race/ethnicity is restricted to those jurisdictions with at least ninety workers in the sample by both state and race/ethnicity for each of the three analyzed education groups (high school graduates, workers with associate degrees, and workers with bachelor's degrees).

Michigan

On average, Michiganders with bachelor's degrees earn 50.1 percent more than those with associate degrees ($86,446 versus $57,585) and 80.1 percent more than those with high school diplomas (Figure MI-1).

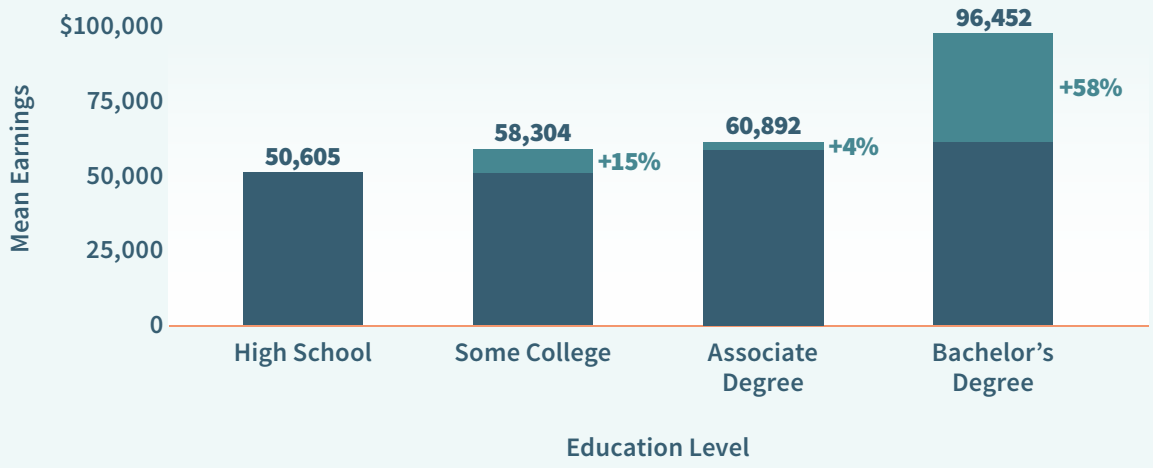
Figure MI-1. Michigan mean earnings by education level



Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The percentage change in teal notes the difference from the next-highest level of education in the figure.

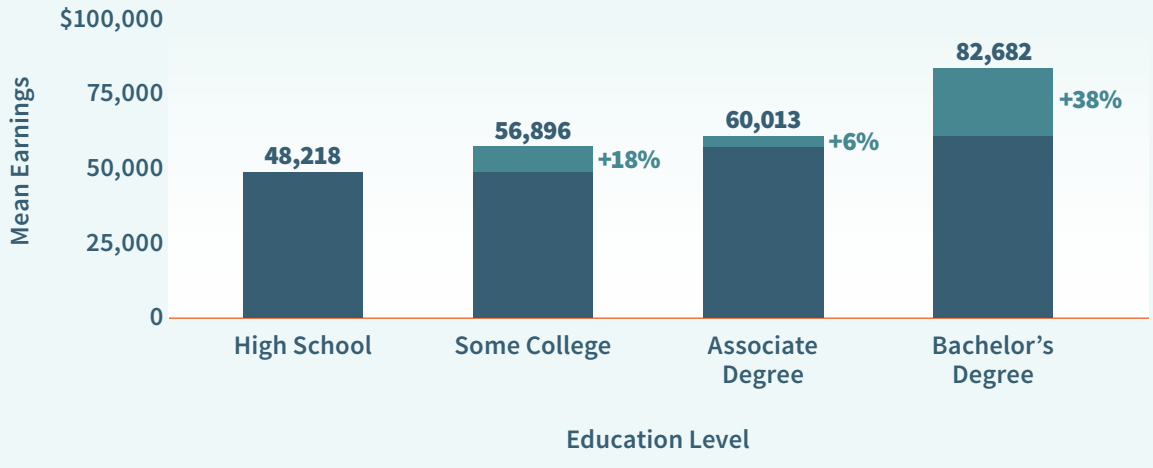
The largest MSA in Michigan is Detroit-Warren-Dearborn. On average, workers with bachelor's degrees earn 58.4 percent more than those with associate degrees ($96,452 versus $60,892) and 90.6 percent more than those with high school diplomas (Figure MI-2). The second largest MSA in Michigan is Grand Rapids-Wyoming. On average, workers with bachelor's degrees earn 37.8 percent more than those with associate degrees ($82,682 versus $60,013) and 71.5 percent more than those with high school diplomas (Figure MI-3).

Figure MI-2. Detroit-Warren-Dearborn MSA mean earnings by education level



Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The percentage change in teal notes the difference from the next-highest level of education in the figure.

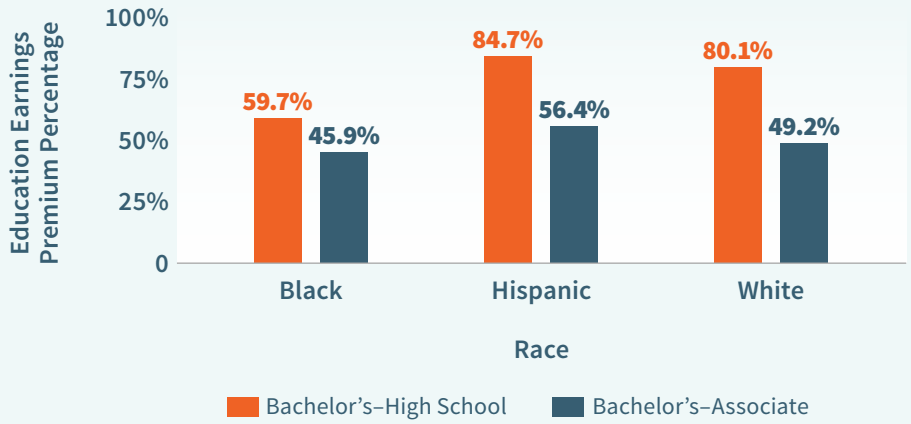
Figure MI-3. Grand Rapids-Wyoming MSA mean earnings by education level



Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The percentage change in teal notes the difference from the next-highest level of education in the figure.

Education earnings premiums by race show that the premiums are higher for Hispanic and white workers than for black workers. Black bachelor's degree holders in Michigan earn 45.9 percent more than black workers with associate degrees and 59.7 percent more than black high school graduates in the state. Hispanic bachelor's degree holders earn 56.4 percent more than Hispanic workers with associate degrees and 84.7 percent more than Hispanic high school graduates in the state. For white workers in Michigan, bachelor's degree holders enjoy a 49.2 percent premium over associate degree holders and an 80.1 percent earnings premium relative to high school graduates (Figure MI-4).

Figure MI-4. Education earnings premiums by race in Michigan



Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The analysis by race/ethnicity is restricted to those jurisdictions with at least ninety workers in the sample by both state and race/ethnicity for each of the three analyzed education groups (high school graduates, workers with associate degrees, and workers with bachelor's degrees).

Minnesota

On average, Minnesotans with bachelor's degrees earn 46.5 percent more than those with associate degrees ($91,856 versus $62,695) and 78.0 percent more than those with high school diplomas (Figure MN-1). The largest MSA in Minnesota is Minneapolis-St. Paul-Bloomington.[1] On average, workers with bachelor's degrees earn 49.5 percent more than those with associate degrees ($98,244 versus $65,715) and 83.6 percent more than those with high school diplomas (Figure MN-2).

Figure MN-1. Minnesota mean earnings by education level

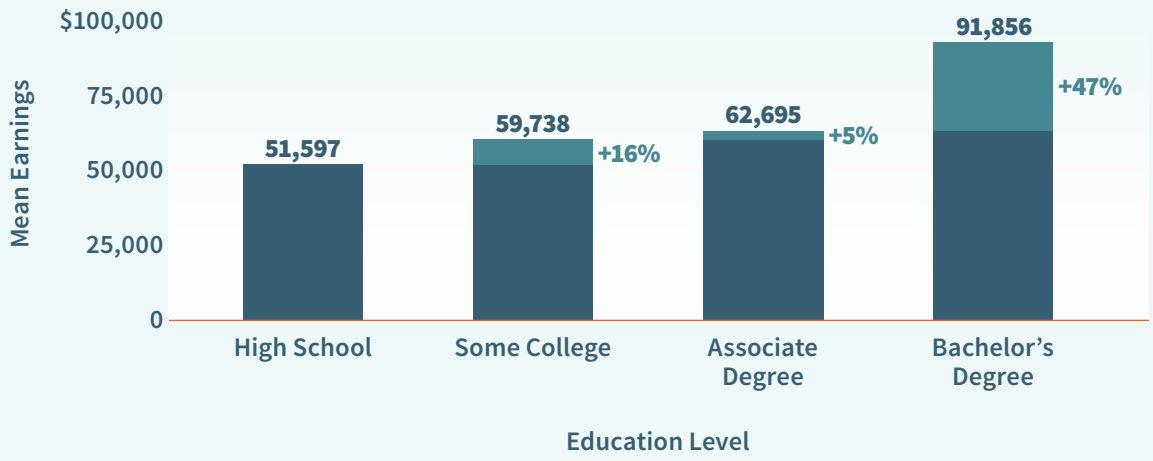
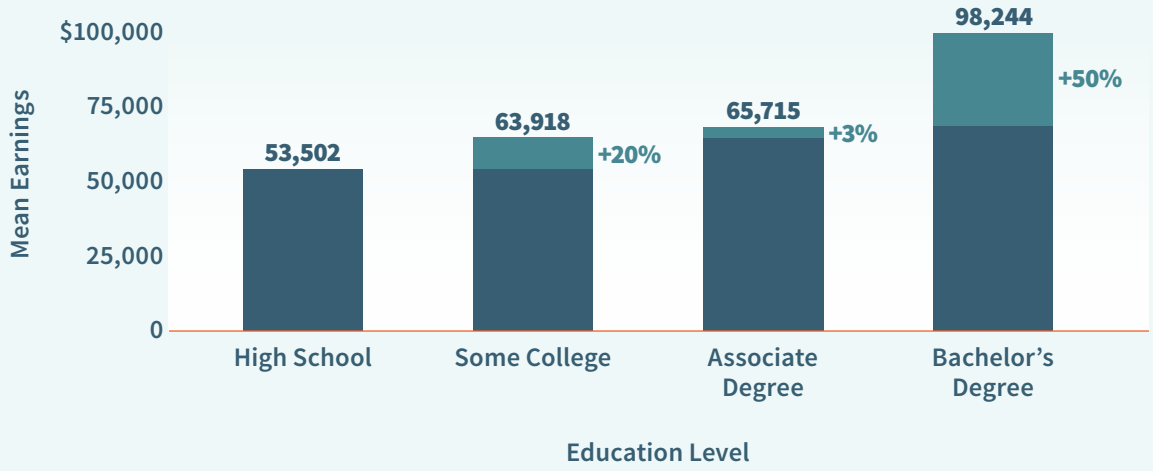


Figure MN-2. Minneapolis-St. Paul-Bloomington MSA mean earnings by education level



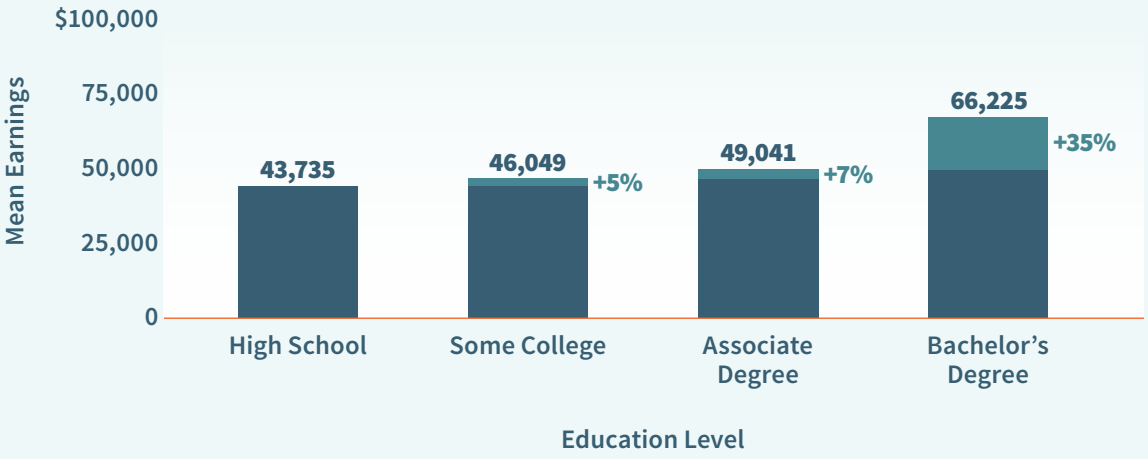
Note: Based on author's calculations from the American Community Survey. The samples are limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The percentage change in teal notes the difference from the next-highest level of education in the figure.

1. Data for a second MSA are reported only when a state has more than one large MSA, defined as a metro area with population greater than 500,000.

Mississippi

On average, Mississippians with bachelor's degrees earn 35.0 percent more than those with associate degrees ($66,225 versus $49,041) and 51.4 percent more than those with high school diplomas (Figure MS-1).

Figure MS-1. Mississippi mean earnings by education level

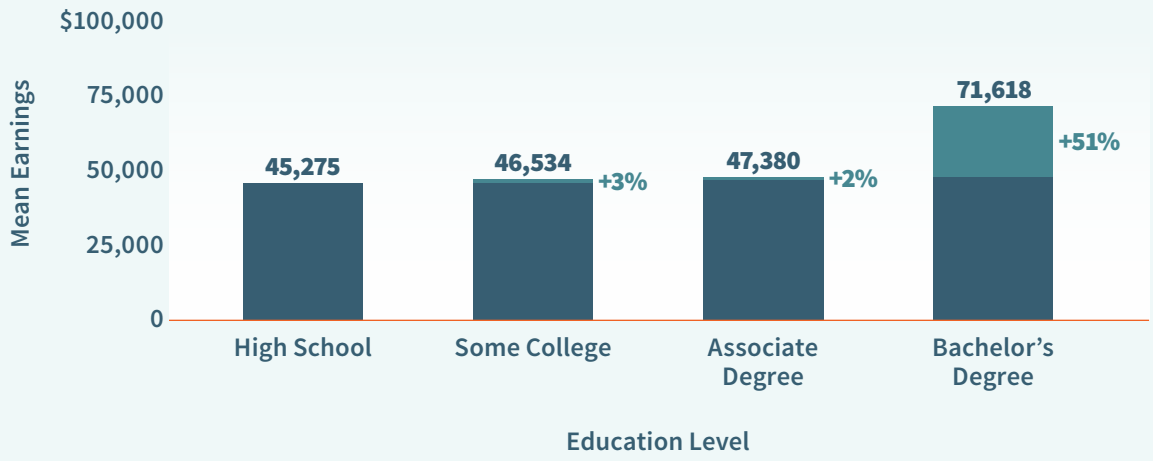


Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The percentage change in teal notes the difference from the next-highest level of education in the figure.

The largest MSA in Mississippi is Jackson.[1] On average, workers with bachelor's degrees earn 51.2 percent more than those with associate degrees ($71,618 versus $47,380) and 58.2 percent more than those with high school diplomas (Figure MS-2). Education earnings premiums by race show that premiums are higher for white workers than for black workers. Black bachelor's degree holders in Mississippi earn 24.7 percent more than black workers with associate degrees in the state and 34.0 percent more than black high school graduates. For white workers in Mississippi, bachelor's degree holders enjoy a 32.1 percent premium over associate degree holders and a 44.5 percent earnings premium relative to high school graduates and (Figure MS-3).

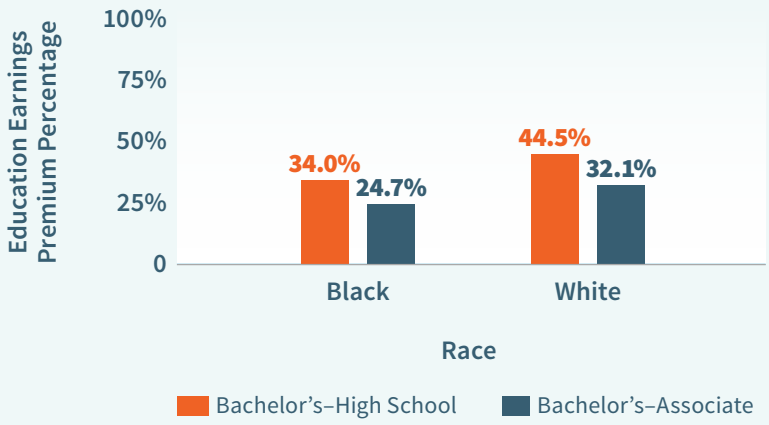
1. Data for a second MSA are reported only when a state has more than one large MSA, defined as a metro area with population greater than 500,000.

Figure MS-2. Jackson MSA mean earnings by education level



Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The percentage change in teal notes the difference from the next-highest level of education in the figure.

Figure MS-3. Education earnings premiums by race in Mississippi

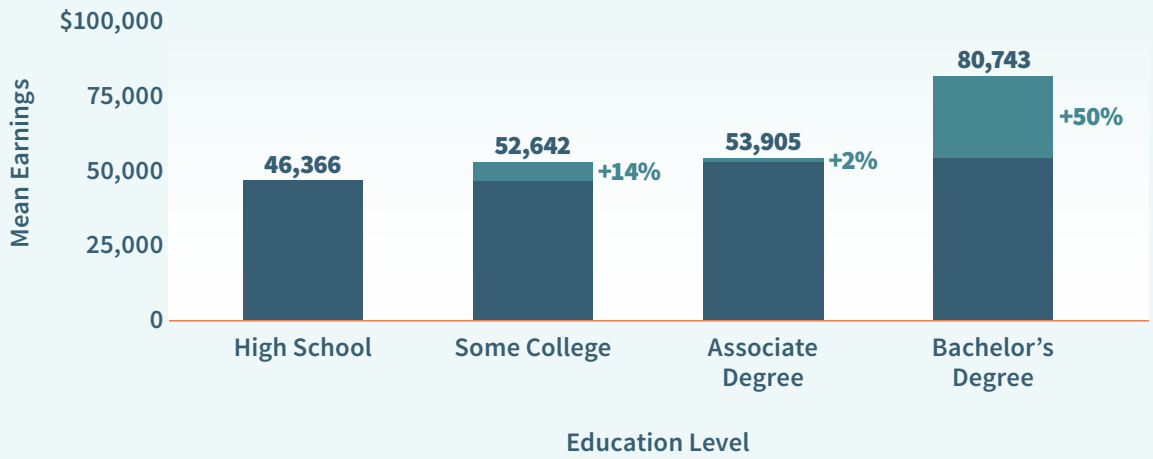


Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The analysis by race/ethnicity is restricted to those jurisdictions with at least ninety workers in the sample by both state and race/ethnicity for each of the three analyzed education groups (high school graduates, workers with associate degrees, and workers with bachelor's degrees).

Missouri

On average, Missourians with bachelor's degrees earn 49.8 percent more than those with associate degrees ($80,743 versus $53,905) and 74.1 percent more than those with high school diplomas (Figure MO-1).

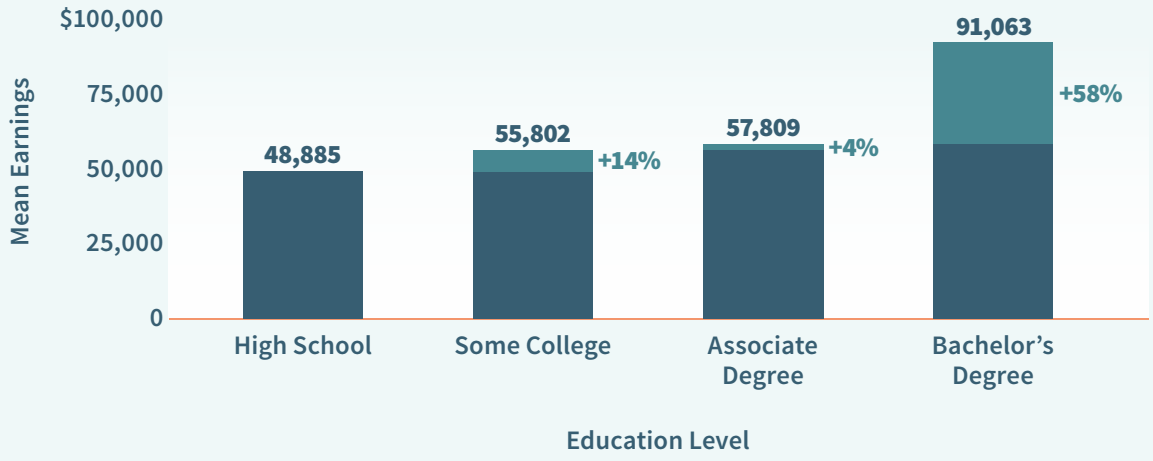
Figure MO-1. Missouri mean earnings by education level



Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The percentage change in teal notes the difference from the next-highest level of education in the figure.

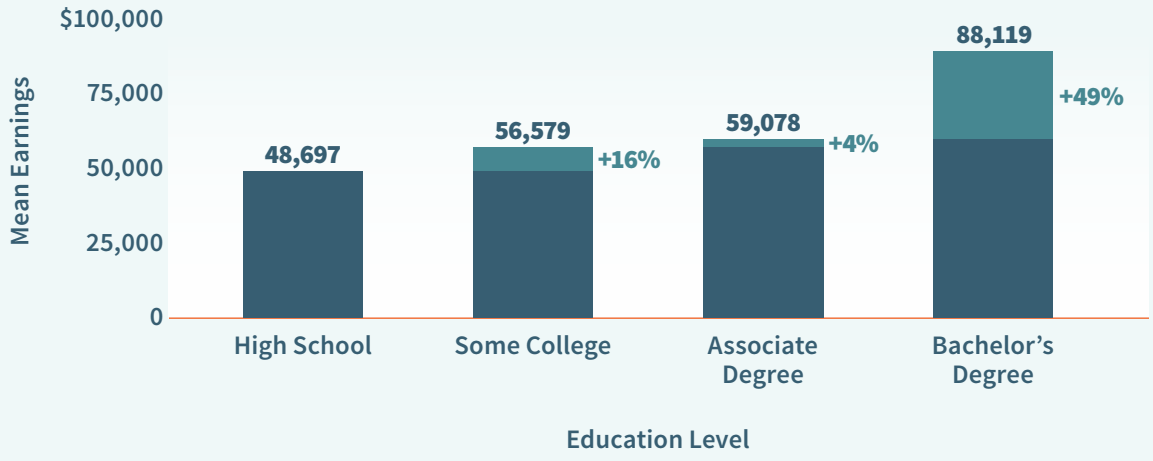
The largest MSA in Missouri is St. Louis. On average, workers with bachelor's degrees earn 57.5 percent more than those with associate degrees ($91,063 versus $57,809) and 86.4 percent more than those with high school diplomas (Figure MO-2). The second largest MSA in Missouri is Kansas City. On average, workers with bachelor's degrees earn 49.2 percent more than those with associate degrees ($88,119 versus $59,078) and 81.0 percent more than those with high school diplomas (Figure MO-3).

Figure MO-2. St. Louis MSA mean earnings by education level



Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The percentage change in teal notes the difference from the next-highest level of education in the figure.

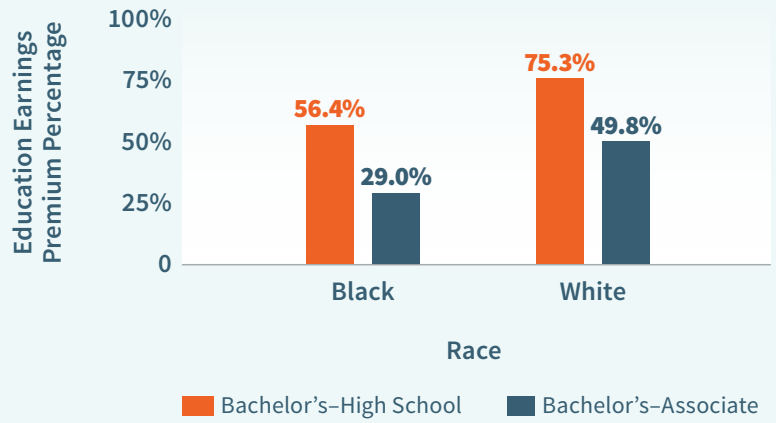
Figure MO-3. Kansas City MSA mean earnings by education level



Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The percentage change in teal notes the difference from the next-highest level of education in the figure.

Education earnings premiums by race show that premiums are higher for white workers than for black workers. Black bachelor's degree holders in Missouri earn 29.0 percent more than black workers with associate degrees and 56.4 percent more than black high school graduates in the state. For white workers in Missouri, bachelor's degree holders enjoy a 49.8 percent premium over associate degree holders and a 75.3 percent earnings premium relative to high school graduates (Figure MO-4).

Figure MO-4. Education earnings premiums by race in Missouri



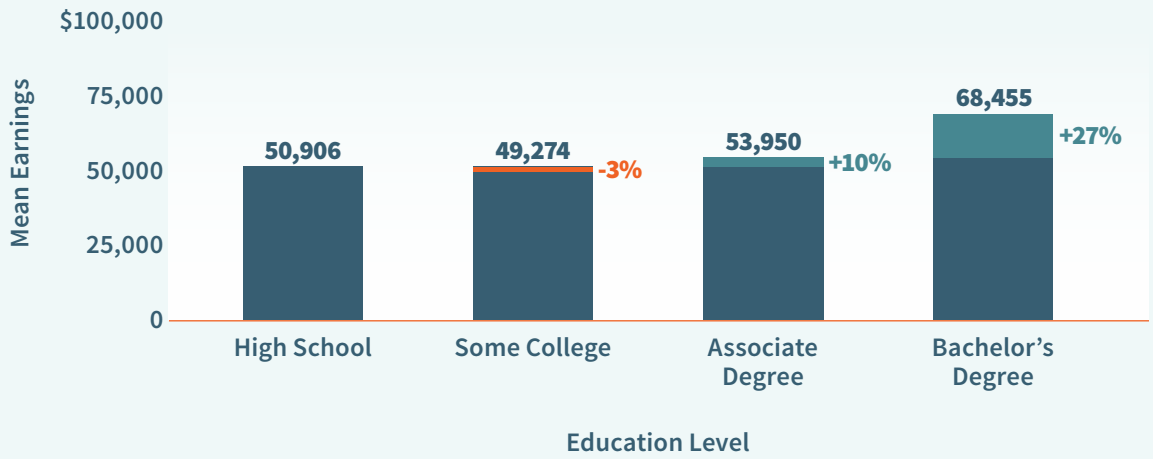
Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The analysis by race/ethnicity is restricted to those jurisdictions with at least ninety workers in the sample by both state and race/ethnicity for each of the three analyzed education groups (high school graduates, workers with associate degrees, and workers with bachelor's degrees).

Montana

On average, Montanans with bachelor's degrees earn 26.9 percent more than those with associate degrees ($68,455 versus $53,950) and 34.5 percent more than those with high school diplomas (Figure MT-1).

Montana has no MSA with population greater than 500,000.

Figure MT-1. Montana mean earnings by education level



Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The percentage change in teal notes the increase from the next-highest level of education in the figure, and the percentage change in orange notes a decrease from the next-highest level of education.

Nebraska

On average, Nebraskans with bachelor's degrees earn 42.2 percent more than those with associate degrees ($77,968 versus $54,817) and 56.7 percent more than those with high school diplomas (Figure NE-1). The largest MSA in Nebraska is Omaha-Council Bluffs.[1] On average, workers with bachelor's degrees earn 47.0 percent more than those with associate degrees ($84,231 versus $57,299) and 60.8 percent more than those with high school diplomas (Figure NE-2).

Figure NE-1. Nebraska mean earnings by education level

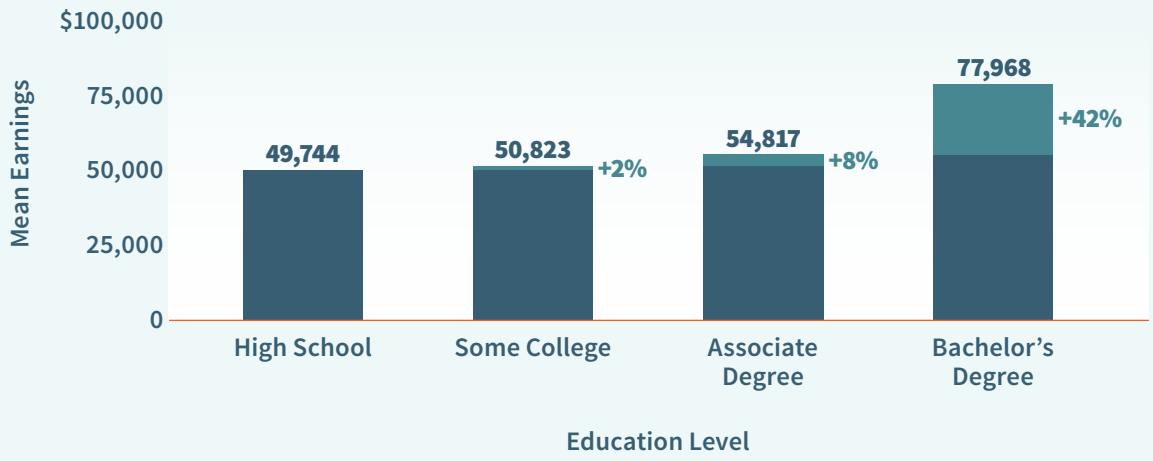
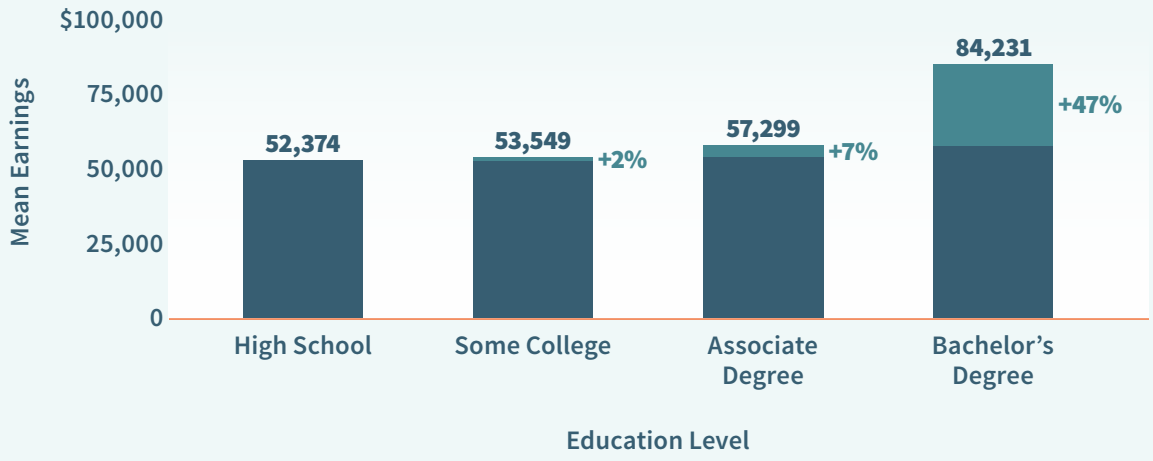


Figure NE-2. Omaha-Council Bluffs MSA mean earnings by education level



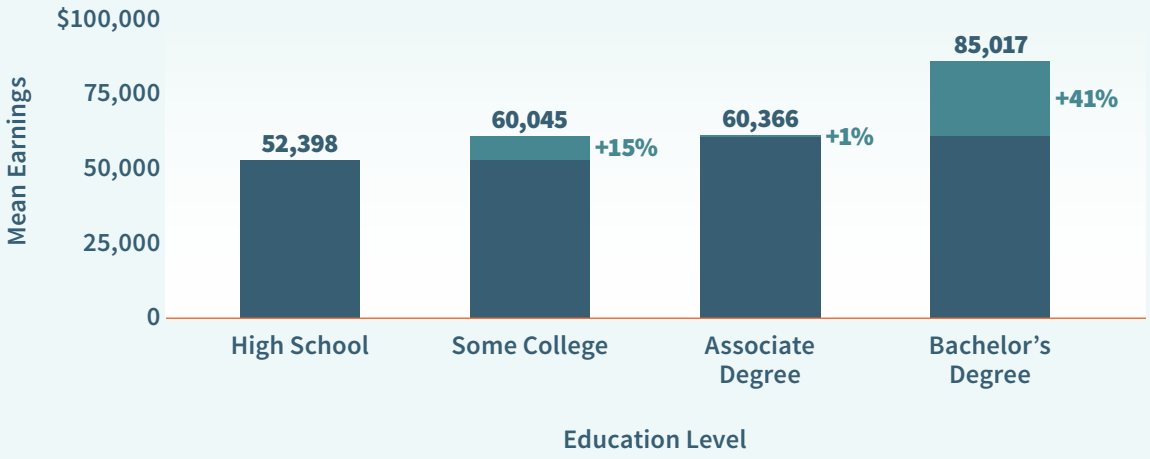
Note: Based on author's calculations from the American Community Survey. The samples are limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The percentage change in teal notes the difference from the next-highest level of education in the figure.

1. Data for a second MSA are reported only when a state has more than one large MSA, defined as a metro area with population greater than 500,000.

Nevada

On average, Nevadans with bachelor's degrees earn 40.8 percent more than those with associate degrees ($85,017 versus $60,366) and 62.3 percent more than those with high school diplomas (Figure NV-1).

Figure NV-1. Nevada mean earnings by education level

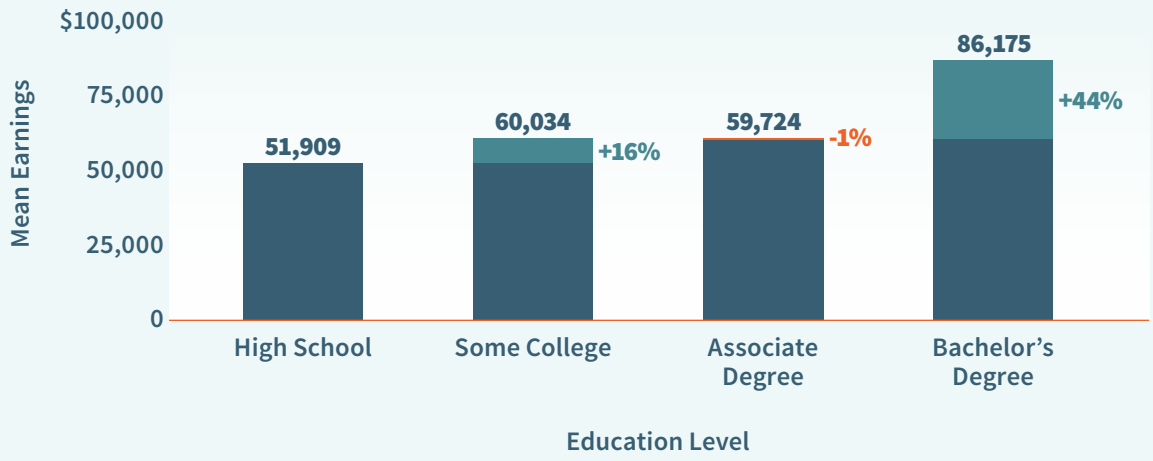


Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The percentage change in teal notes the difference from the next-highest level of education in the figure.

The largest MSA in Nevada is Las Vegas-Henderson-Paradise.[1] On average, workers with bachelor's degrees earn 44.3 percent more than those with associate degrees ($86,175 versus $59,724) and 66.0 percent more than those with high school diplomas (Figure NV-2). Education earnings premiums by race show that premiums are higher for white workers than for Hispanic workers. Hispanic bachelor's degree holders in Nevada earn 27.3 percent more than Hispanic workers with associate degrees and 55.6 percent more than Hispanic high school graduates in the state. For white workers in Nevada, bachelor's degree holders enjoy a 39.5 percent premium over associate degree holders and a 61.4 percent earnings premium relative to high school graduates (Figure NV-3).

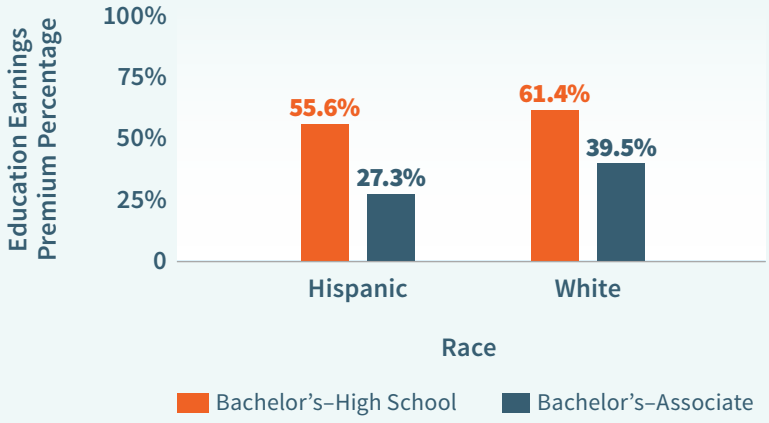
1. Data for a second MSA are reported only when a state has more than one large MSA, defined as a metro area with population greater than 500,000.

Figure NV-2. Las Vegas-Henderson-Paradise MSA mean earnings by education level



Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The percentage change in teal notes the increase from the next-highest level of education in the figure, and the percentage change in orange notes a decrease from the next-highest level of education.

Figure NV-3. Education earnings premiums by race in Nevada



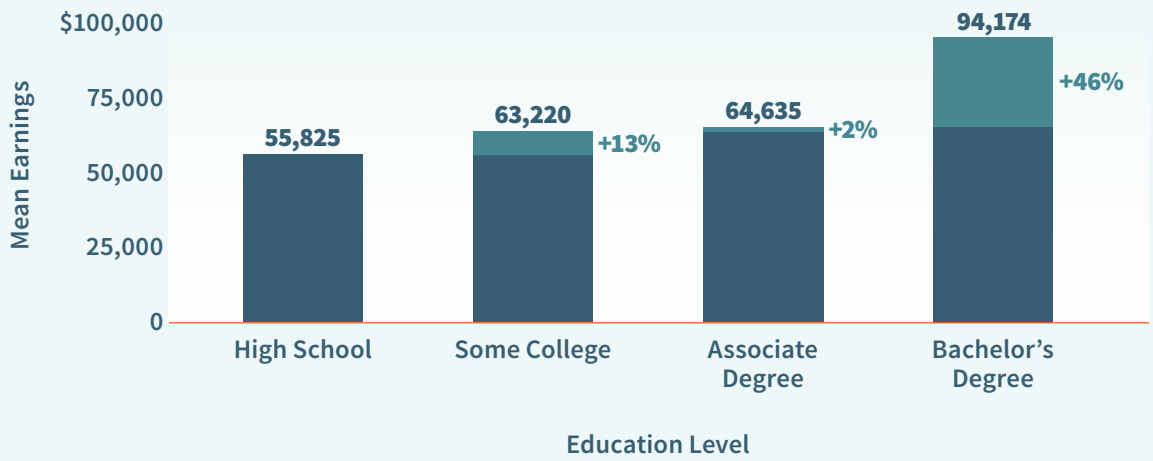
Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The analysis by race/ethnicity is restricted to those jurisdictions with at least ninety workers in the sample by both state and race/ethnicity for each of the three analyzed education groups (high school graduates, workers with associate degrees, and workers with bachelor's degrees).

New Hampshire

On average, New Hampshirites with bachelor's degrees earn 45.7 percent more than those with associate degrees ($94,174 versus $64,635) and 68.7 percent more than those with high school diplomas (Figure NH-1).

New Hampshire has no MSA with population greater than 500,000.

Figure NH-1. New Hampshire mean earnings by education level



Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The percentage change in teal notes the difference from the next-highest level of education in the figure.

New Jersey

On average, New Jerseyans with bachelor's degrees earn 64.3 percent more than those with associate degrees ($119,789 versus $72,908) and 97.3 percent more than those with high school diplomas (Figure NJ-1). New Jersey has no MSA with population greater than 500,000.

Education earnings premiums by race show that premiums are higher for white workers than for black and Hispanic workers. Black bachelor's degree holders in New Jersey earn 46.6 percent more than black workers with associate degrees and 88.5 percent more than black high school graduates in the state. Hispanic bachelor's degree holders earn 31.3 percent more than Hispanic workers with associate degrees and 70.0 percent more than Hispanic high school graduates in the state. For white workers in New Jersey, bachelor's degree holders enjoy a 64.3 percent premium over associate degree holders and a 91.6 percent earnings premium relative to high school graduates (Figure NJ-2).

Figure NJ-1. New Jersey mean earnings by education level

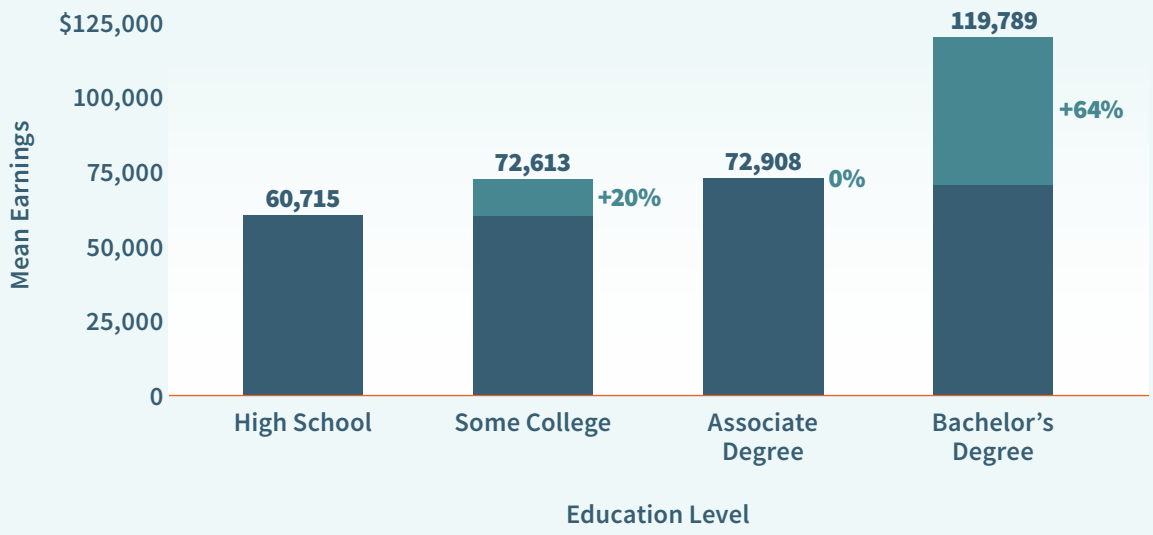
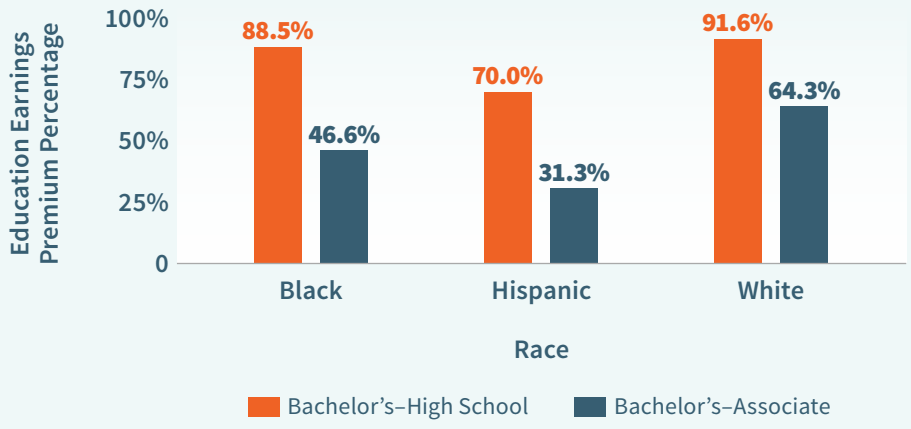


Figure NJ-2. Education earnings premiums by race in New Jersey

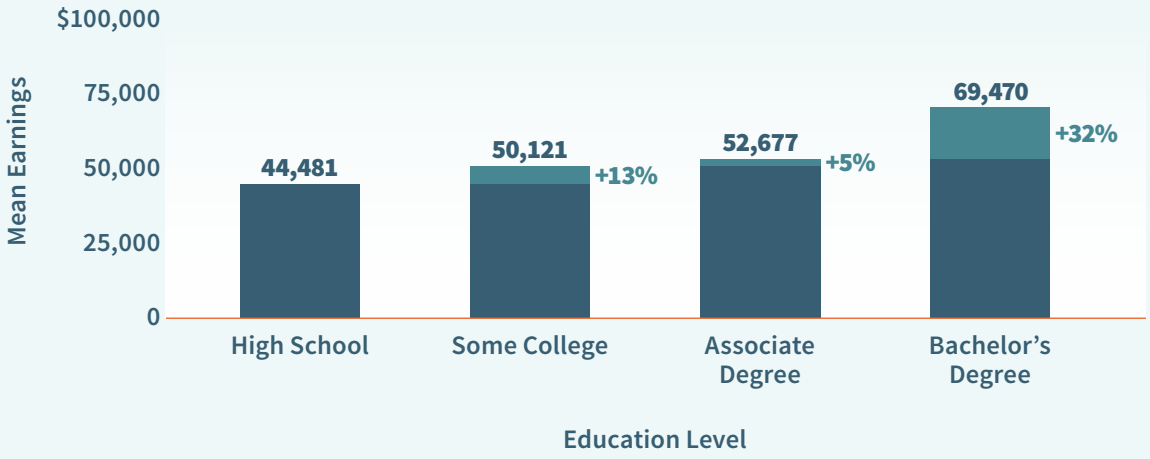


Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The percentage change in teal notes the difference from the next-highest level of education in the figure. The analysis by race/ethnicity is restricted to those jurisdictions with at least ninety workers in the sample by both state and race/ethnicity for each of the three analyzed education groups (high school graduates, workers with associate degrees, and workers with bachelor's degrees).

New Mexico

On average, New Mexicans with bachelor's degrees earn 31.9 percent more than those with associate degrees ($69,470 versus $52,677) and 56.2 percent more than those with high school diplomas (Figure NM-1).

Figure NM-1. New Mexico mean earnings by education level

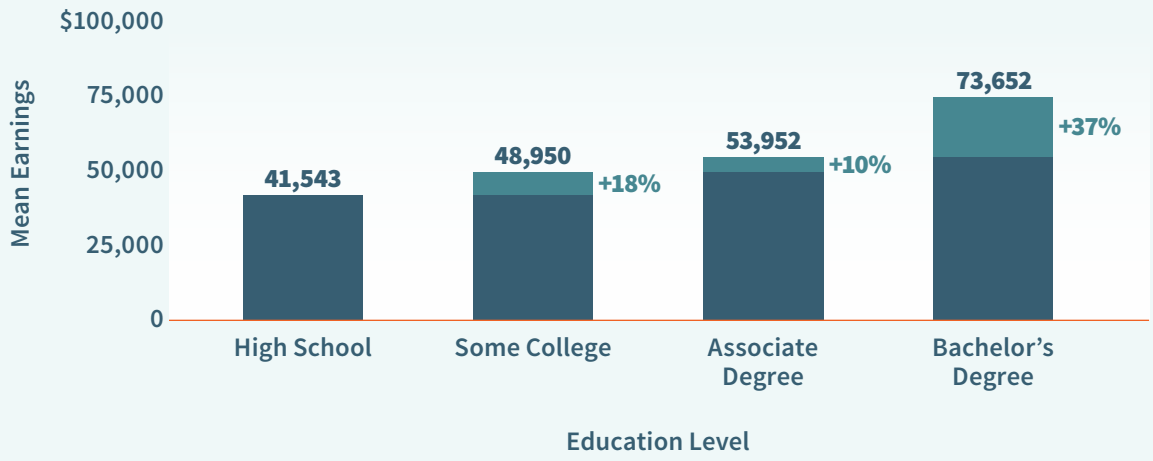


Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The percentage change in teal notes the difference from the next-highest level of education in the figure.

The largest MSA in New Mexico is Albuquerque.[1] On average, workers with bachelor's degrees earn 36.5 percent more than those with associate degrees ($73,652 versus $53,952) and 77.3 percent more than those with high school diplomas (Figure NM-2). Education earnings premiums by race show that premiums are higher for Hispanic workers than for white workers. Hispanic bachelor's degree holders in New Mexico earn 29.5 percent more than Hispanic workers with associate degrees and 53.1 percent more than Hispanic high school graduates in the state. For white workers in New Mexico, bachelor's degree holders enjoy a 27.1 percent premium over associate degree holders and a 43.4 percent earnings premium relative to high school graduates (Figure NM-3).

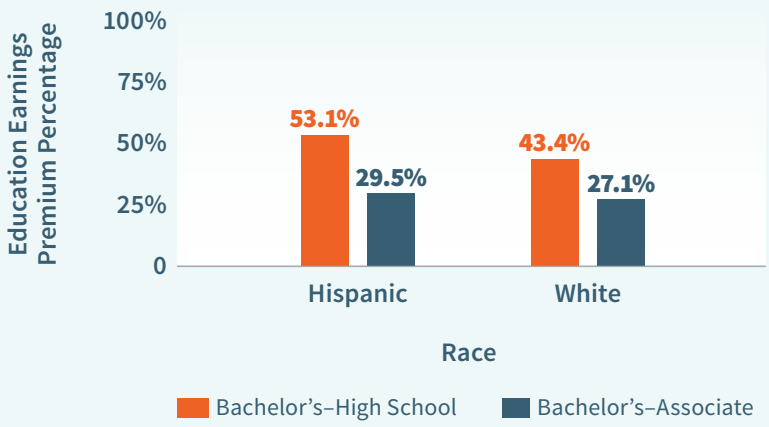
1. Data for a second MSA are reported only when a state has more than one large MSA, defined as a metro area with population greater than 500,000.

Figure NM-2. Albuquerque MSA mean earnings by education level



Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The percentage change in teal notes the difference from the next-highest level of education in the figure.

Figure NM-3. Education earnings premiums by race in New Mexico

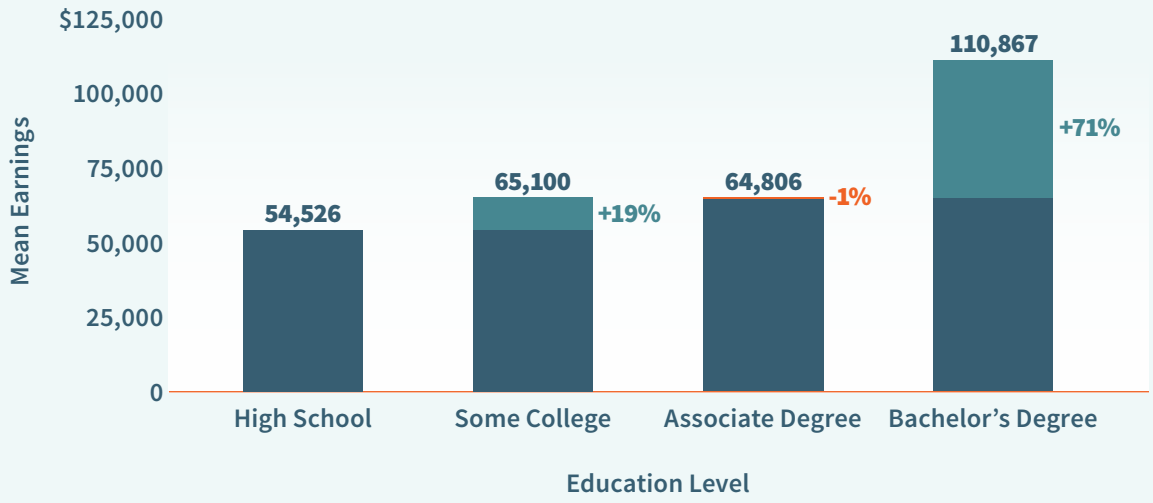


Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The analysis by race/ethnicity is restricted to those jurisdictions with at least ninety workers in the sample by both state and race/ethnicity for each of the three analyzed education groups (high school graduates, workers with associate degrees, and workers with bachelor's degrees).

New York

On average, New Yorkers with bachelor's degrees earn 71.1 percent more than those with associate degrees ($110,867 versus $64,806) and 103.3 percent more than those with high school diplomas (Figure NY-1).

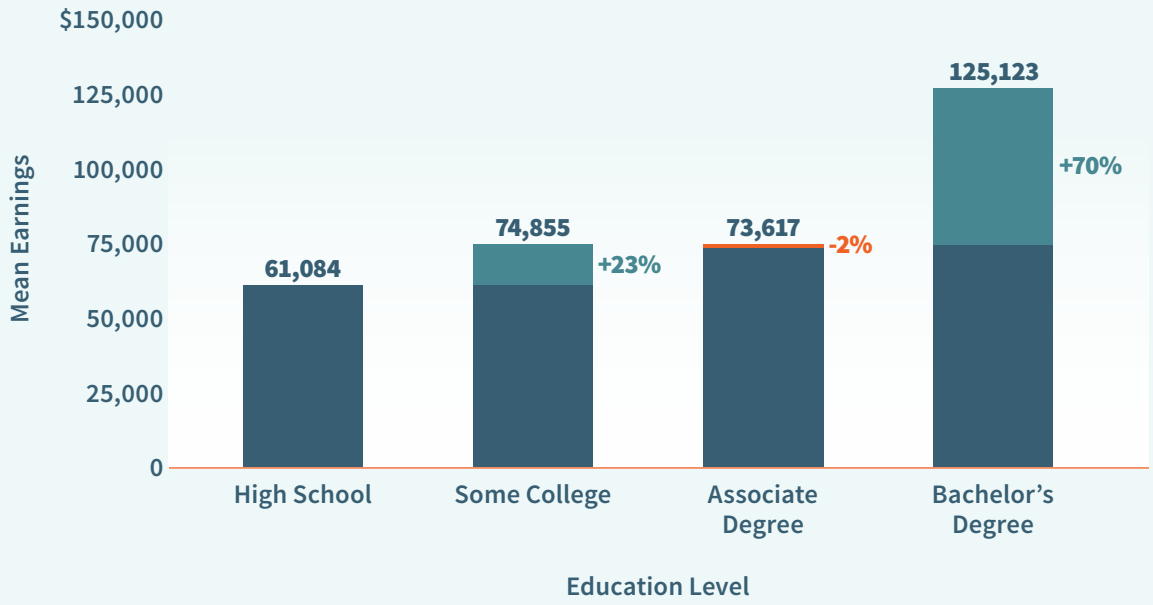
Figure NY-1. New York mean earnings by education level



Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The percentage change in teal notes the increase from the next-highest level of education in the figure, and the percentage change in orange notes a decrease from the next-highest level of education.

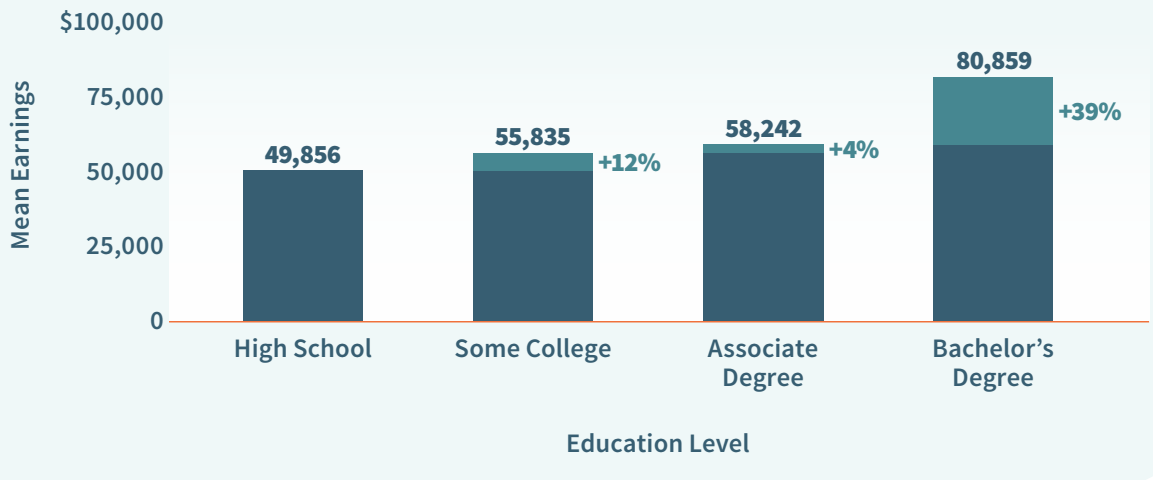
The largest MSA in New York is New York-Newark-Jersey City. On average, workers with bachelor's degrees earn 70.0 percent more than those with associate degrees ($125,123 versus $73,617) and 104.8 percent more than those with high school diplomas (Figure NY-2). The second largest MSA in New York is Buffalo-Cheektowaga-Niagara Falls. On average, workers with bachelor's degrees earn 38.8 percent more than those with associate degrees ($80,859 versus $58,242) and 62.2 percent more than those with high school diplomas (Figure NY-3).

Figure NY-2. New York-Newark-Jersey City MSA mean earnings by education level



Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The percentage change in teal notes the increase from the next-highest level of education in the figure, and the percentage change in orange notes a decrease from the next-highest level of education.

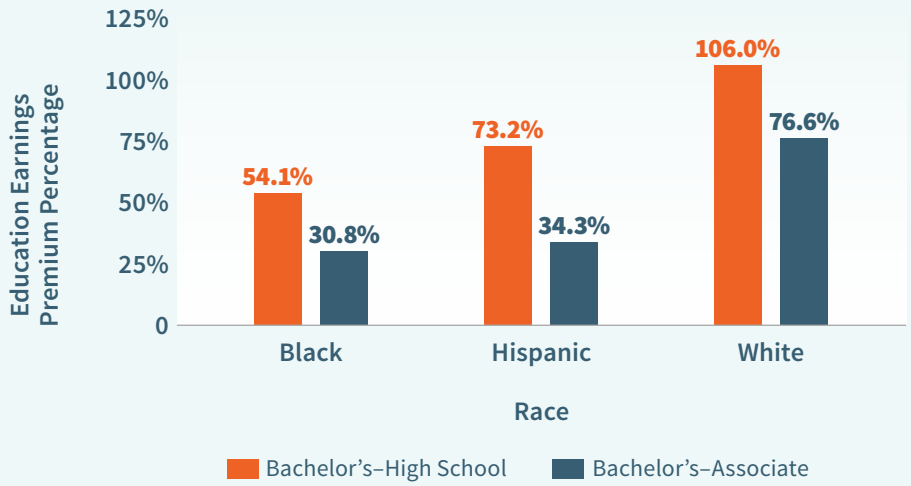
Figure NY-3. Buffalo-Cheektowaga-Niagara Falls MSA mean earnings by education level



Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The percentage change in teal notes the difference from the next-highest level of education in the figure.

Education earnings premiums by race show that premiums are higher for white workers than for black and Hispanic workers. Black bachelor's degree holders in New York earn 30.8 percent more than black workers with associate degrees and 54.1 percent more than black high school graduates in the state. Hispanic bachelor's degree holders earn 34.3 percent more than Hispanic workers with associate degrees in the state and 73.2 percent more than Hispanic high school graduates in the state. For white workers in New York, bachelor's degree holders enjoy a 76.6 percent premium over associate degree holders and a 106.0 percent earnings premium relative to high school graduates (Figure NY-4).

Figure NY-4. Education earnings premiums by race in New York

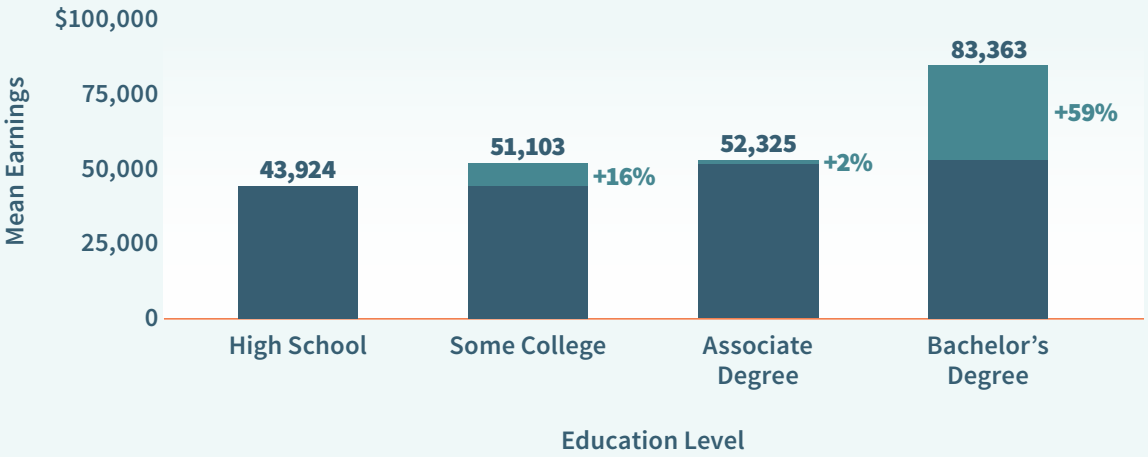


Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The analysis by race/ethnicity is restricted to those jurisdictions with at least ninety workers in the sample by both state and race/ethnicity for each of the three analyzed education groups (high school graduates, workers with associate degrees, and workers with bachelor's degrees).

North Carolina

On average, North Carolinians with bachelor's degrees earn 59.3 percent more than those with associate degrees ($83,363 versus $52,325) and 89.8 percent more than those with high school diplomas (Figure NC-1).

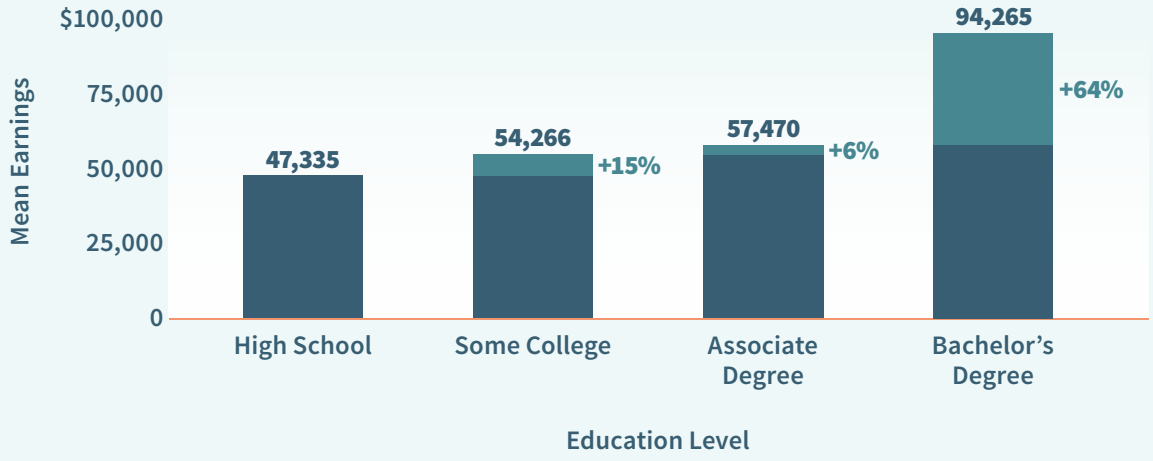
Figure NC-1. North Carolina mean earnings by education level



Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The percentage change in teal notes the difference from the next-highest level of education in the figure.

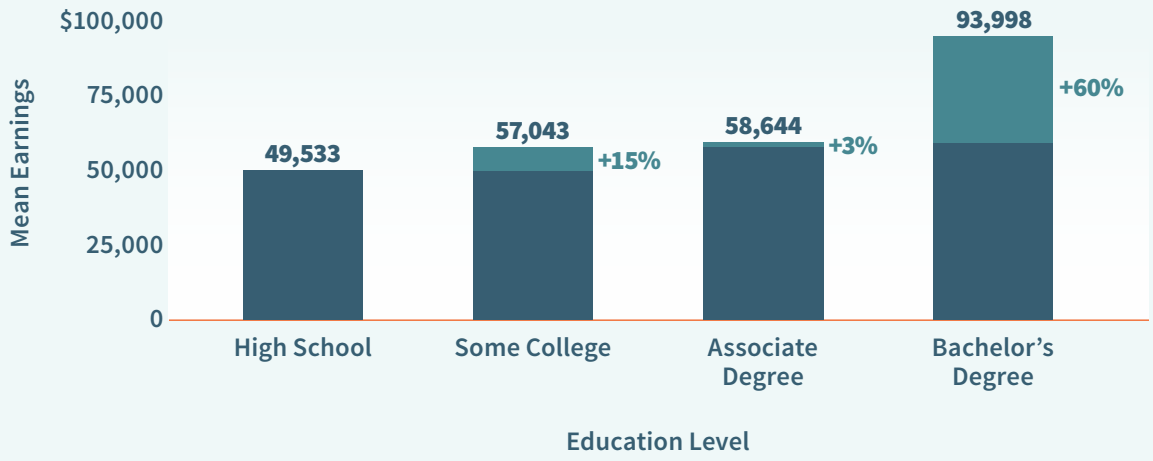
The largest MSA in North Carolina is Charlotte-Concord-Gastonia. On average, workers with bachelor's degrees earn 64.0 percent more than those with associate degrees ($94,265 versus $57,470) and 99.1 percent more than those with high school diplomas (Figure NC-2). The second largest MSA in North Carolina is Raleigh. On average, workers with bachelor's degrees earn 60.2 percent more than those with associate degrees ($93,998 versus $58,664) and 89.8 percent more than those with high school diplomas (Figure NC-3).

Figure NC-2. Charlotte-Concord-Gastonia MSA mean earnings by education level



Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The percentage change in teal notes the difference from the next-highest level of education in the figure.

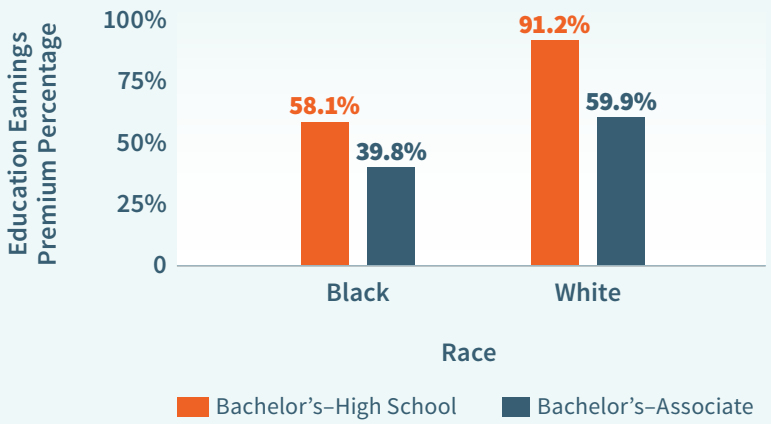
Figure NC-3. Raleigh MSA mean earnings by education level



Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The percentage change in teal notes the difference from the next-highest level of education in the figure.

Education earnings premiums by race show that premiums are higher for white workers than for black workers. Black bachelor's degree holders in North Carolina earn 39.8 percent more than black workers with associate degrees in the state and 58.1 percent more than black high school graduates. For white workers in North Carolina, bachelor's degree holders enjoy a 59.9 percent premium over associate degree holders and a 91.2 percent earnings premium relative to high school graduates (Figure NC-4).

Figure NC-4. Education earnings premiums by race in North Carolina



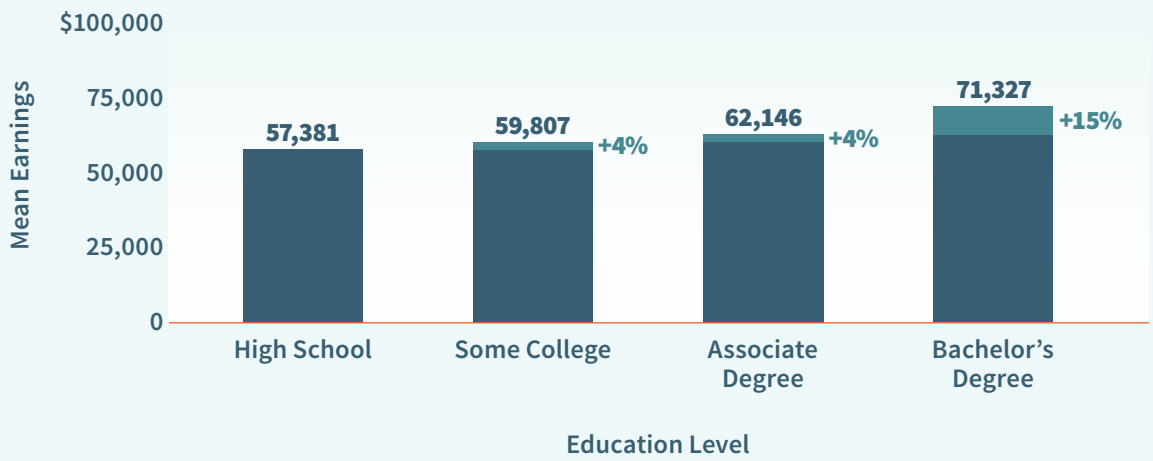
Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The analysis by race/ethnicity is restricted to those jurisdictions with at least ninety workers in the sample by both state and race/ethnicity for each of the three analyzed education groups (high school graduates, workers with associate degrees, and workers with bachelor's degrees).

North Dakota

On average, North Dakotans with bachelor's degrees earn 14.8 percent more than those with associate degrees ($71,327 versus $62,146) and 24.3 percent more than those with high school diplomas (Figure ND-1).

North Dakota has no MSA with population greater than 500,000.

Figure ND-1. North Dakota mean earnings by education level

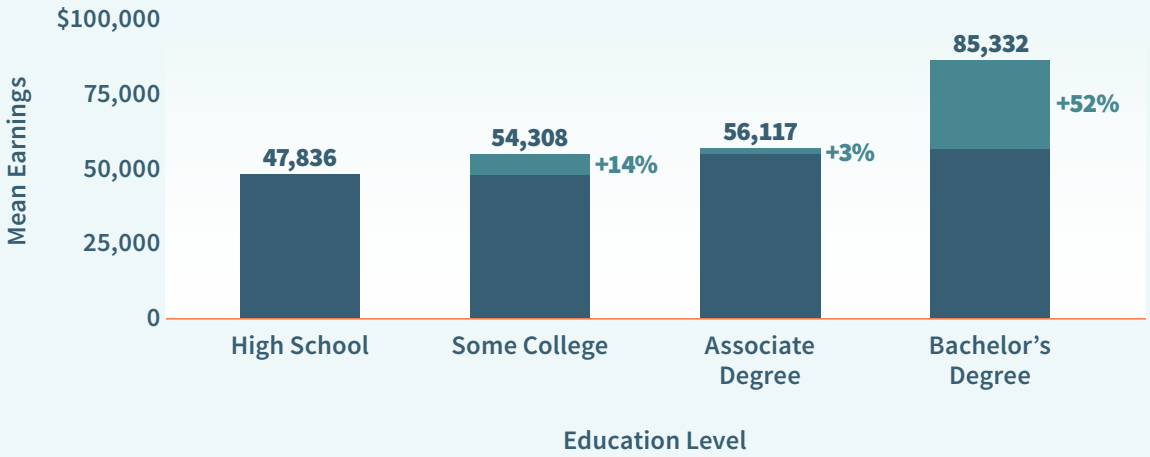


Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The percentage change in teal notes the difference from the next-highest level of education in the figure.

Ohio

On average, Ohioans with bachelor's degrees earn 52.1 percent more than those with associate degrees ($85,332 versus $56,117) and 78.4 percent more than those with high school diplomas (Figure OH-1).

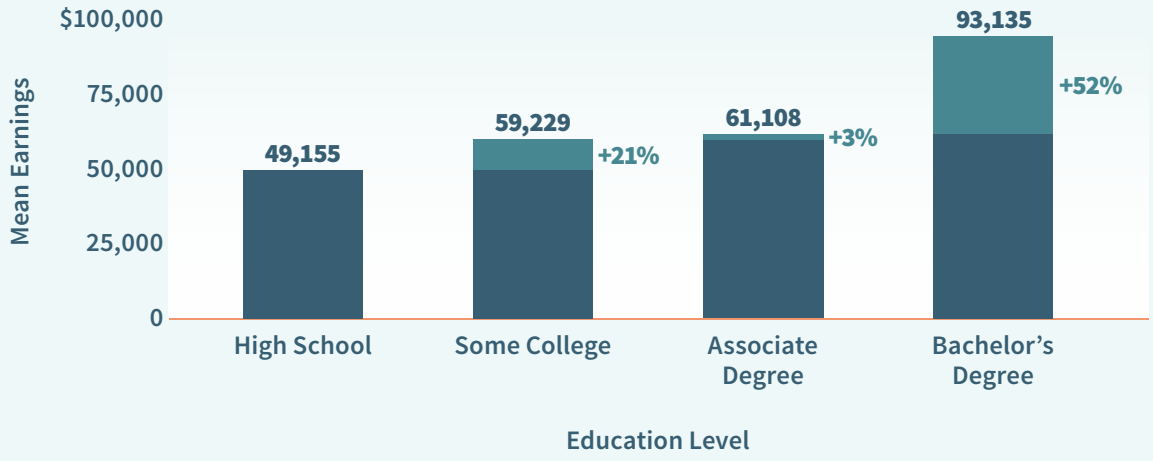
Figure OH-1. Ohio mean earnings by education level



Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The percentage change in teal notes the difference from the next-highest level of education in the figure.

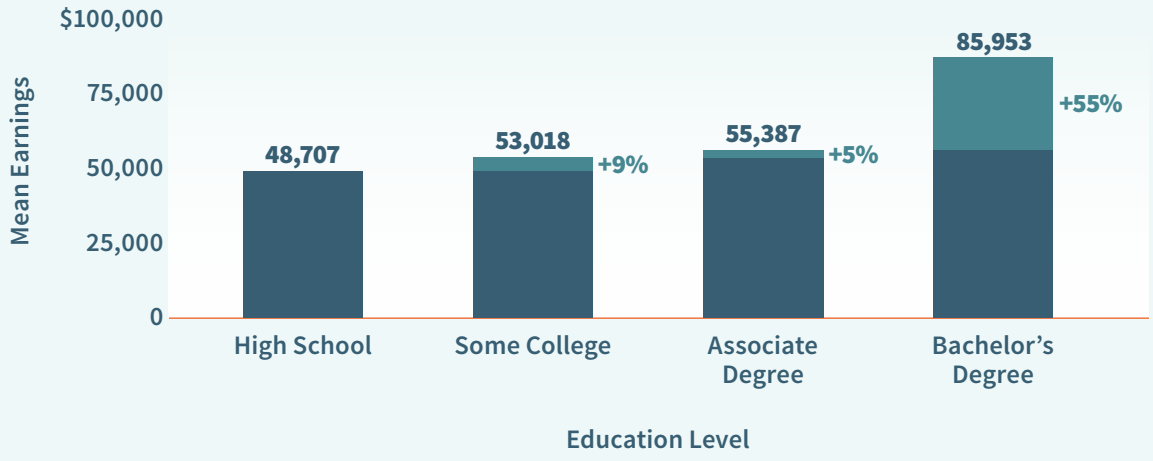
The largest MSA in Ohio is Cincinnati. On average, workers with bachelor's degrees earn 52.4 percent more than those with associate degrees ($93,135 versus $61,108) and 89.5 percent more than those with high school diplomas (Figure OH-2). The second largest MSA in Ohio is Cleveland-Elyria. On average, workers with bachelor's degrees earn 55.2 percent more than those with associate degrees ($85,953 versus $55,387) and 76.5 percent more than those with high school diplomas (Figure OH-3).

Figure OH-2. Cincinnati MSA mean earnings by education level



Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The percentage change in teal notes the difference from the next-highest level of education in the figure.

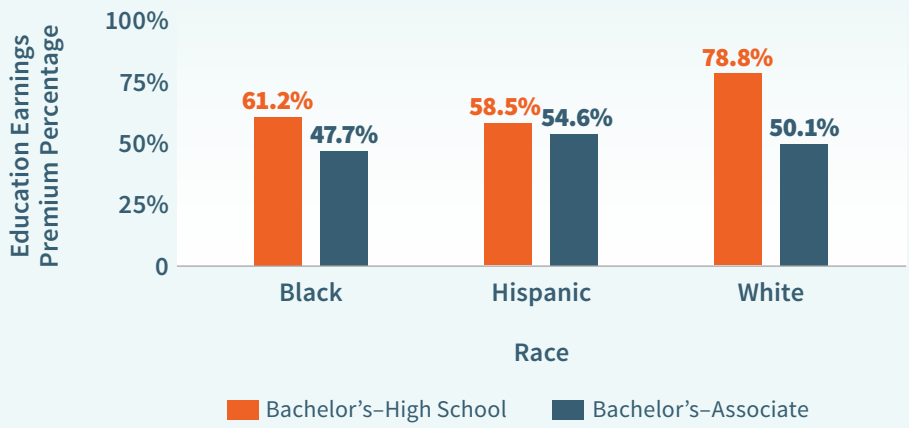
Figure OH-3. Cleveland-Elyria MSA mean earnings by education level



Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The percentage change in teal notes the difference from the next-highest level of education in the figure.

Education earnings premiums by race show that the bachelor's premium versus a high school diploma is highest for white workers, but the bachelor's premium versus an associate degree is highest for Hispanic workers. Black bachelor's degree holders in Ohio earn 47.7 percent more than black workers with associate degrees in the state and 61.2 percent more than black high school graduates. Hispanic bachelor's degree holders earn 54.6 percent more than Hispanic workers with associate degrees and 58.5 percent more than Hispanic high school graduates in the state. For white workers in Ohio, bachelor's degree holders enjoy a 50.1 percent premium over associate degree holders and a 78.8 percent earnings premium relative to high school graduates (Figure OH-4).

Figure OH-4. Education earnings premiums by race in Ohio

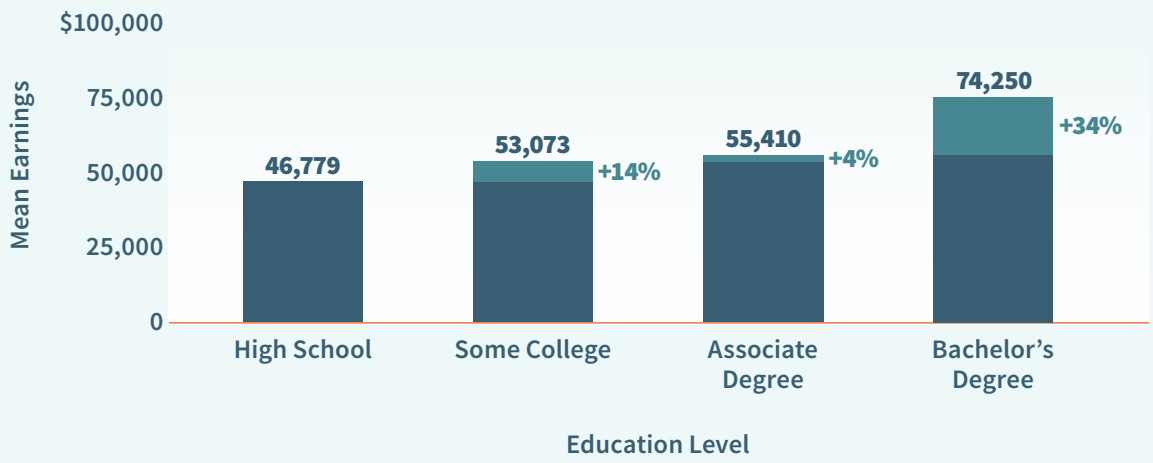


Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The analysis by race/ethnicity is restricted to those jurisdictions with at least ninety workers in the sample by both state and race/ethnicity for each of the three analyzed education groups (high school graduates, workers with associate degrees, and workers with bachelor's degrees).

Oklahoma

On average, Oklahomans with bachelor's degrees earn 34.0 percent more than those with associate degrees ($74,250 versus $55,410) and 58.7 percent more than those with high school diplomas (Figure OK-1).

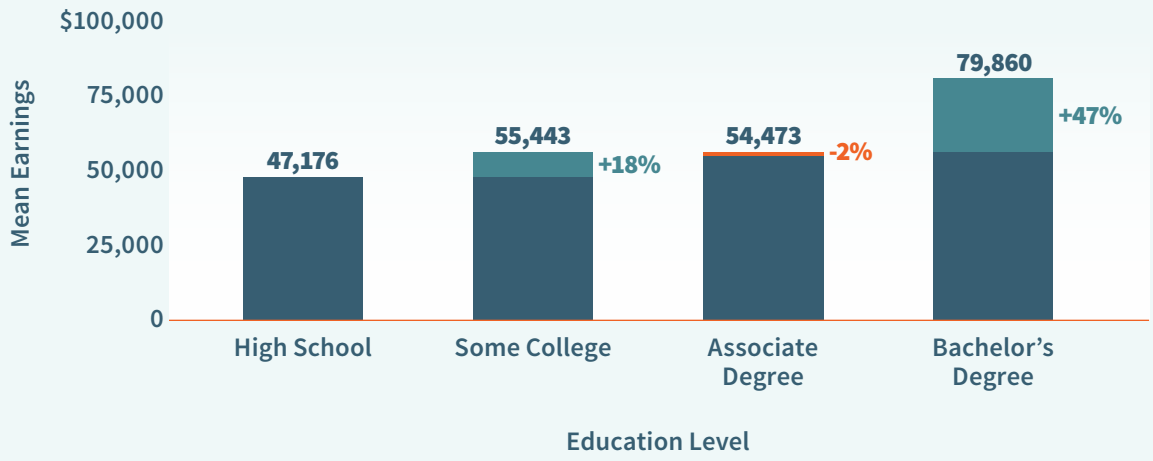
Figure OK-1. Oklahoma mean earnings by education level



Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The percentage change in teal notes the difference from the next-highest level of education in the figure.

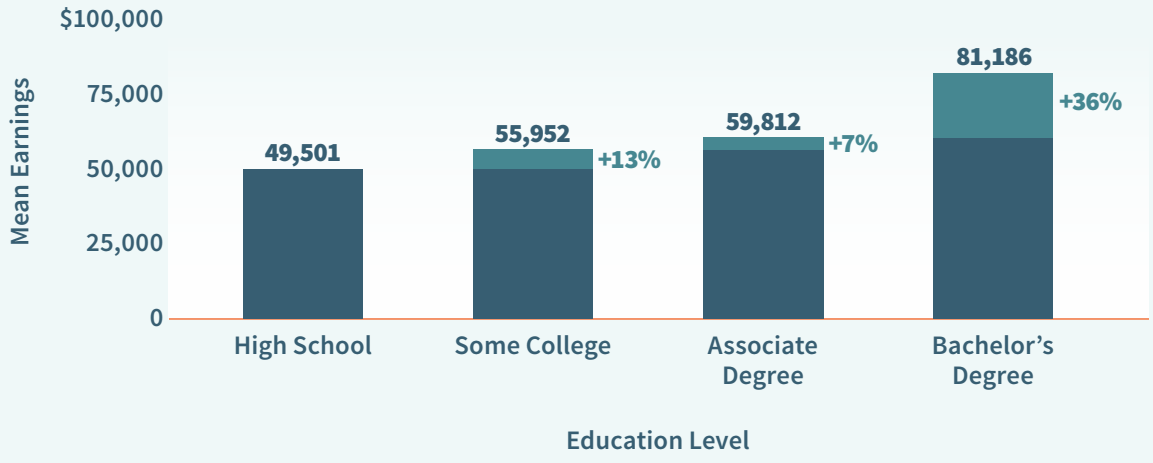
The largest MSA in Oklahoma is Oklahoma City. On average, workers with bachelor's degrees earn 46.6 percent more than those with associate degrees ($79,860 versus $54,473) and 69.3 percent more than those with high school diplomas (Figure OK-2). The second largest MSA in Oklahoma is Tulsa. On average, workers with bachelor's degrees earn 35.7 percent more than those with associate degrees ($81,186 versus $59,812) and 64.0 percent more than those with high school diplomas (Figure OK-3).

Figure OK-2. Oklahoma City MSA mean earnings by education level



Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The percentage change in teal notes the increase from the next-highest level of education in the figure, and the percentage change in orange notes a decrease from the next-highest level of education.

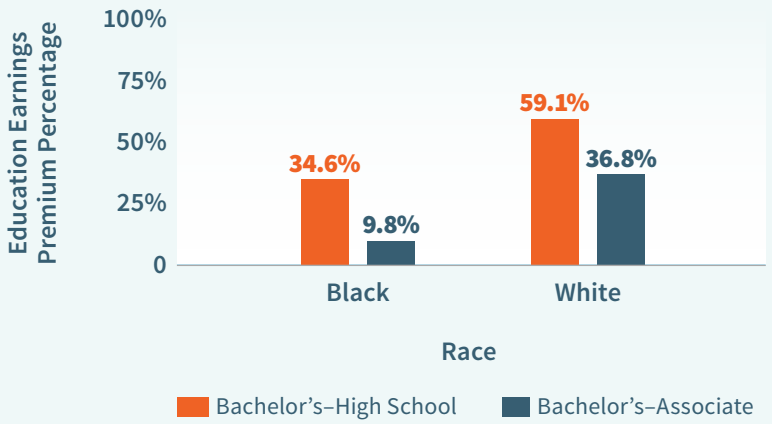
Figure OK-3. Tulsa MSA mean earnings by education level



Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The percentage change in teal notes the difference from the next-highest level of education in the figure.

Education earnings premiums by race show that premiums are higher for white workers than for black workers. Black bachelor's degree holders in Oklahoma earn 9.8 percent more than black workers with associate degrees in the state and 34.6 percent more than black high school graduates. For white workers in Oklahoma, bachelor's degree holders enjoy a 36.8 percent premium over associate degree holders and a 59.1 percent earnings premium relative to high school graduates (Figure OK-4).

Figure OK-4. Education earnings premiums by race in Oklahoma

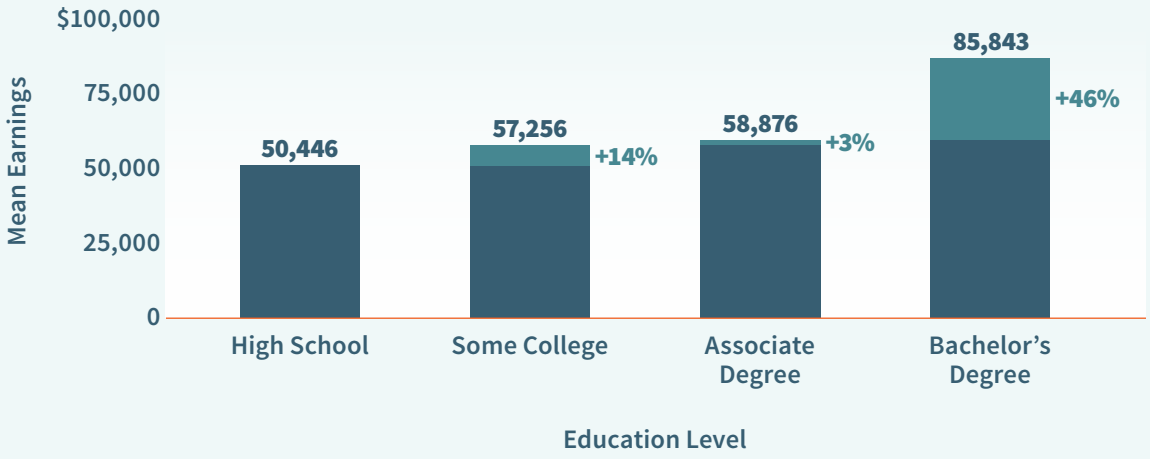


Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The analysis by race/ethnicity is restricted to those jurisdictions with at least ninety workers in the sample by both state and race/ethnicity for each of the three analyzed education groups (high school graduates, workers with associate degrees, and workers with bachelor's degrees).

Oregon

On average, Oregonians with bachelor's degrees earn 45.8 percent more than those with associate degrees ($85,843 versus $58,876) and 70.2 percent more than those with high school diplomas (Figure OR-1).

Figure OR-1. Oregon mean earnings by education level

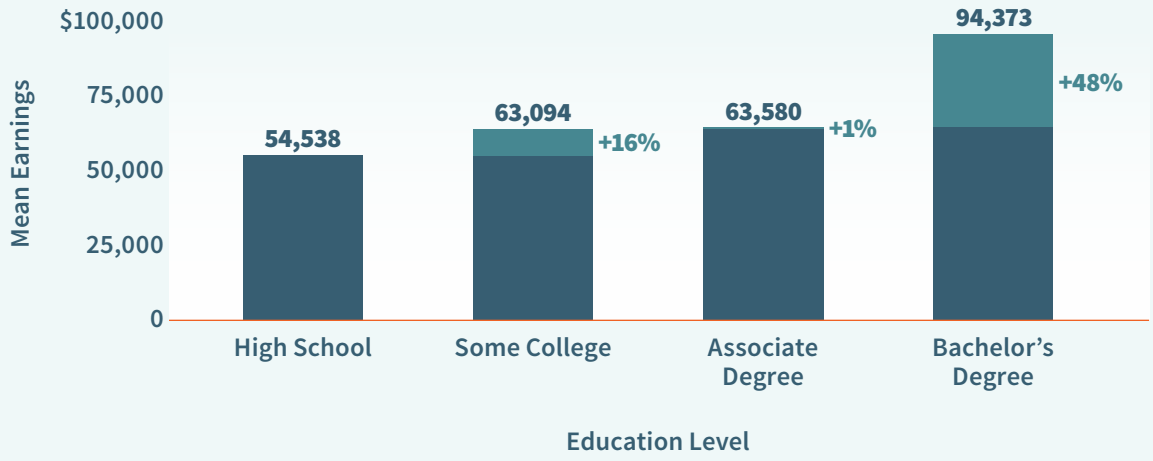


Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The percentage change in teal notes the difference from the next-highest level of education in the figure.

The largest MSA in Oregon is Portland-Vancouver-Hillsboro.[1] On average, workers with bachelor's degrees earn 48.4 percent more than those with associate degrees ($94,373 versus $63,580) and 73.0 percent more than those with high school diplomas (Figure OR-2). Education earnings premiums by race show that the bachelor's premium versus a high school diploma is higher for Hispanic workers than for white workers, but the bachelor's premium versus an associate degree is higher for white workers than for Hispanic workers. Hispanic bachelor's degree holders in Oregon earn 24.8 percent more than Hispanic workers with associate degrees in the state and 75.5 percent more than Hispanic high school graduates. For white workers in Oregon, bachelor's degree holders enjoy a 45.0 percent premium over associate degree holders and a 68.6 percent earnings premium relative to high school graduates (Figure OR-3).

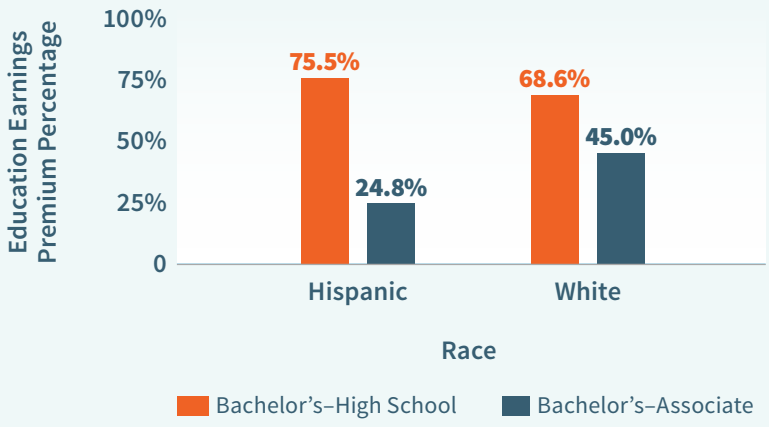
1. Data for a second MSA are reported only when a state has more than one large MSA, defined as a metro area with population greater than 500,000.

Figure OR-2. Portland-Vancouver-Hillsboro MSA mean earnings by education level



Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The percentage change in teal notes the difference from the next-highest level of education in the figure.

Figure OR-3. Education earnings premiums by race in Oregon

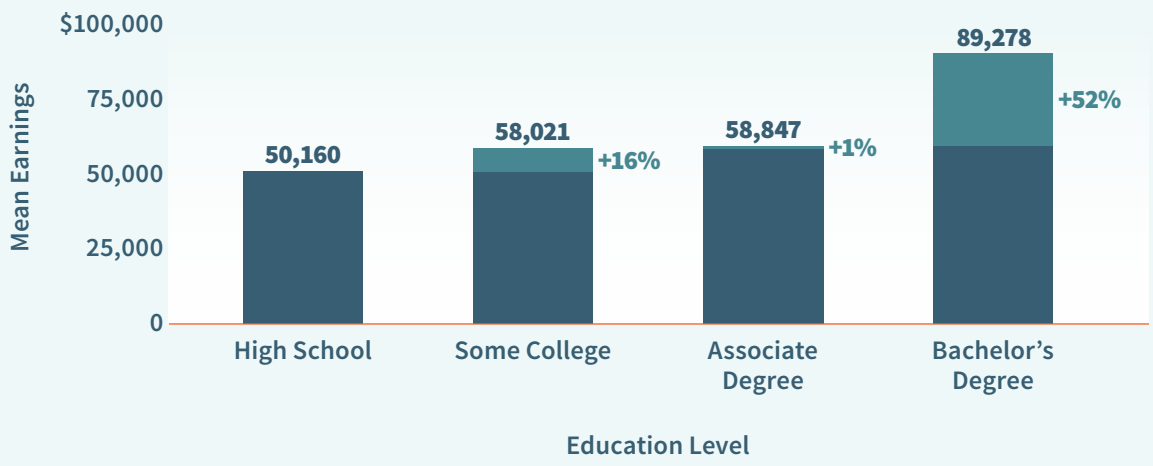


Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The analysis by race/ethnicity is restricted to those jurisdictions with at least ninety workers in the sample by both state and race/ethnicity for each of the three analyzed education groups (high school graduates, workers with associate degrees, and workers with bachelor's degrees).

Pennsylvania

On average, Pennsylvanians with bachelor's degrees earn 51.7 percent more than those with associate degrees ($89,278 versus $58,847) and 78.0 percent more than those with high school diplomas (Figure PA-1).

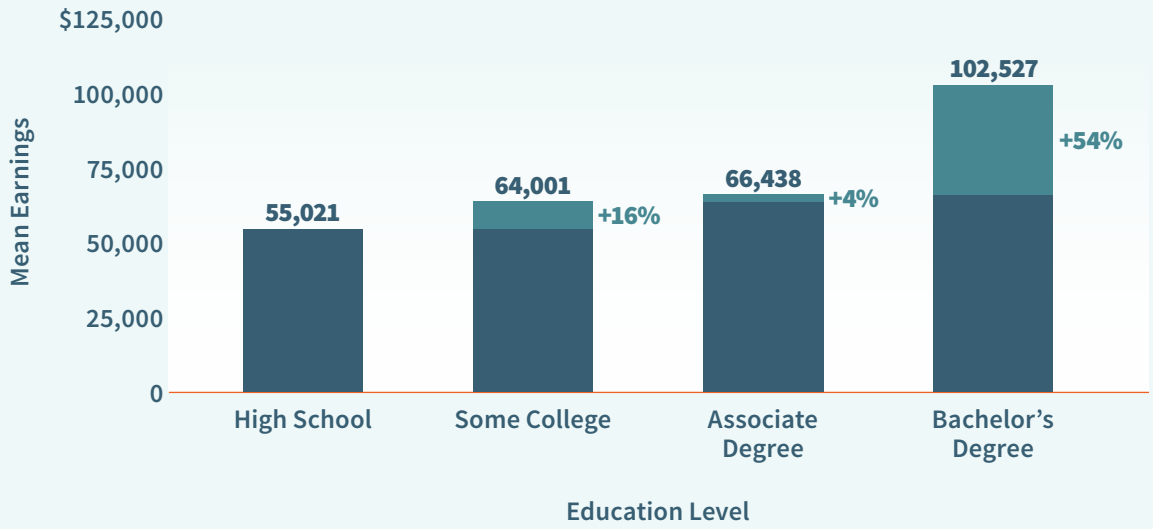
Figure PA-1. Pennsylvania mean earnings by education level



Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The percentage change in teal notes the difference from the next-highest level of education in the figure.

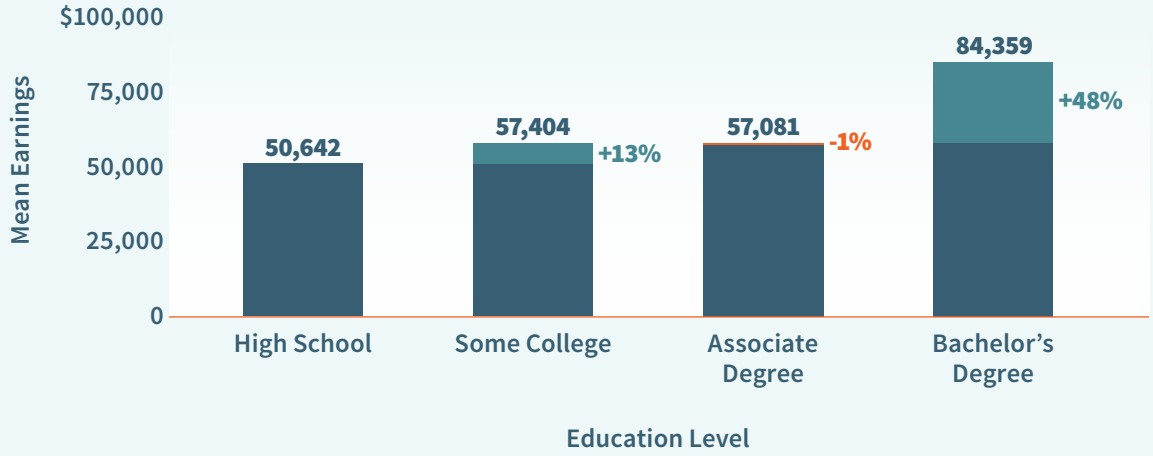
The largest MSA in Pennsylvania is Philadelphia-Camden-Wilmington. On average, workers with bachelor's degrees earn 54.3 percent more than those with associate degrees ($102,527 versus $66,438) and 86.3 percent more than those with high school diplomas (Figure PA-2). The second largest MSA in Pennsylvania is Pittsburgh. On average, workers with bachelor's degrees earn 47.8 percent more than those with associate degrees ($84,359 versus $57,081) and 66.6 percent more than those with high school diplomas (Figure PA-3).

Figure PA-2. Philadelphia-Camden-Wilmington MSA mean earnings by education level



Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The percentage change in teal notes the difference from the next-highest level of education in the figure.

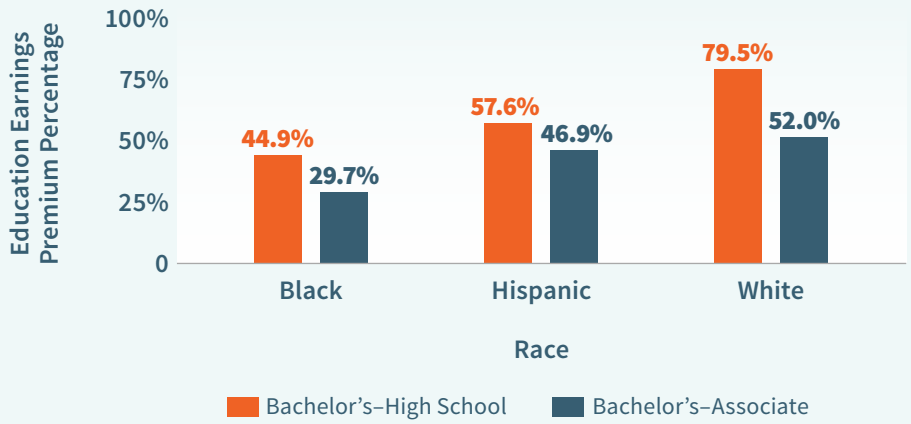
Figure PA-3. Pittsburgh MSA mean earnings by education level



Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The percentage change in teal notes the increase from the next-highest level of education in the figure, and the percentage change in orange notes a decrease from the next-highest level of education.

Education earnings premiums by race show that premiums are higher for white workers than for black and Hispanic workers. Black bachelor's degree holders in Pennsylvania earn 29.7 percent more than black workers with associate degrees in the state and 44.9 percent more than black high school graduates. Hispanic bachelor's degree holders earn 46.9 percent more than Hispanic workers with associate degrees and 57.6 percent more than Hispanic high school graduates in the state. For white workers in Pennsylvania, bachelor's degree holders enjoy a 52.0 percent premium over associate degree holders and a 79.5 percent earnings premium relative to high school graduates (Figure PA-4).

Figure PA-4. Education earnings premiums by race in Pennsylvania



Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The analysis by race/ethnicity is restricted to those jurisdictions with at least ninety workers in the sample by both state and race/ethnicity for each of the three analyzed education groups (high school graduates, workers with associate degrees, and workers with bachelor's degrees).

Rhode Island

On average, Rhode Islanders with bachelor's degrees earn 46.7 percent more than those with associate degrees ($93,401 versus $63,647) and 62.9 percent more than those with high school diplomas (Figure RI-1). The largest MSA in Rhode Island is Providence-Warwick.[1] On average, workers with bachelor's degrees earn 44.1 percent more than those with associate degrees ($92,653 versus $64,309) and 61.3 percent more than those with high school diplomas (Figure RI-2).

Figure RI-1. Rhode Island mean earnings by education level

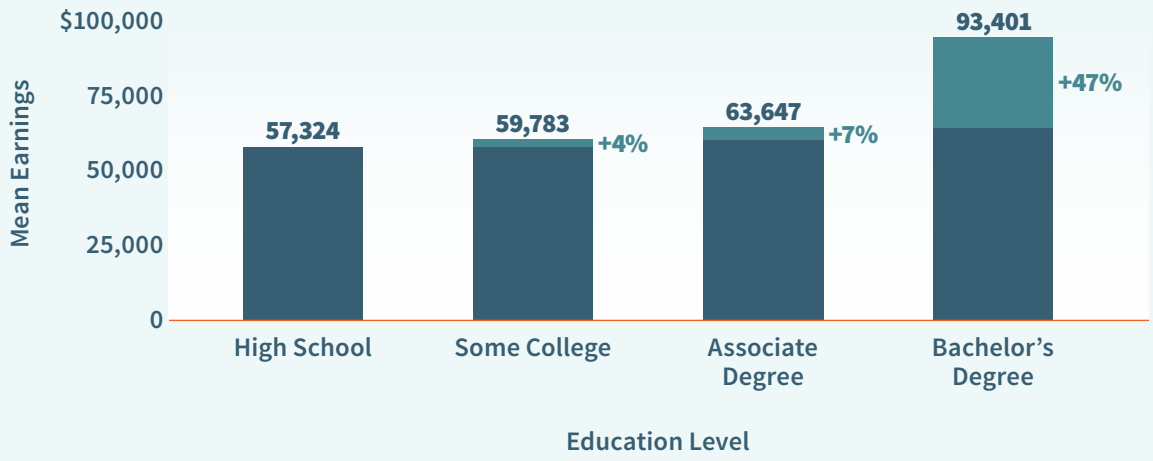
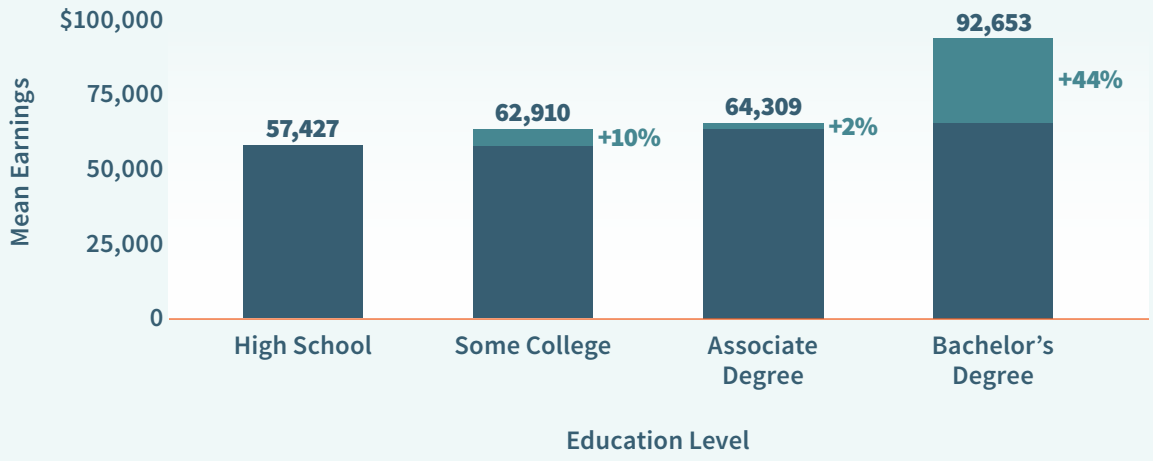


Figure RI-2. Providence-Warwick MSA mean earnings by education level



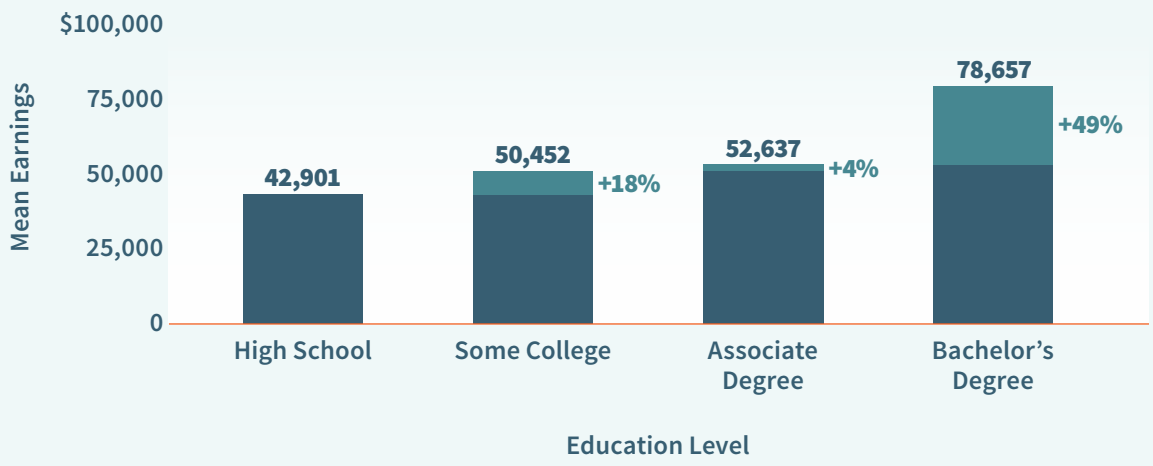
Note: Based on author's calculations from the American Community Survey. The samples are limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The percentage change in teal notes the difference from the next-highest level of education in the figure.

1. Data for a second MSA are reported only when a state has more than one large MSA, defined as a metro area with population greater than 500,000.

South Carolina

On average, South Carolinians with bachelor's degrees earn 49.4 percent more than those with associate degrees ($78,657 versus $52,637) and 83.3 percent more than those with high school diplomas (Figure SC-1).

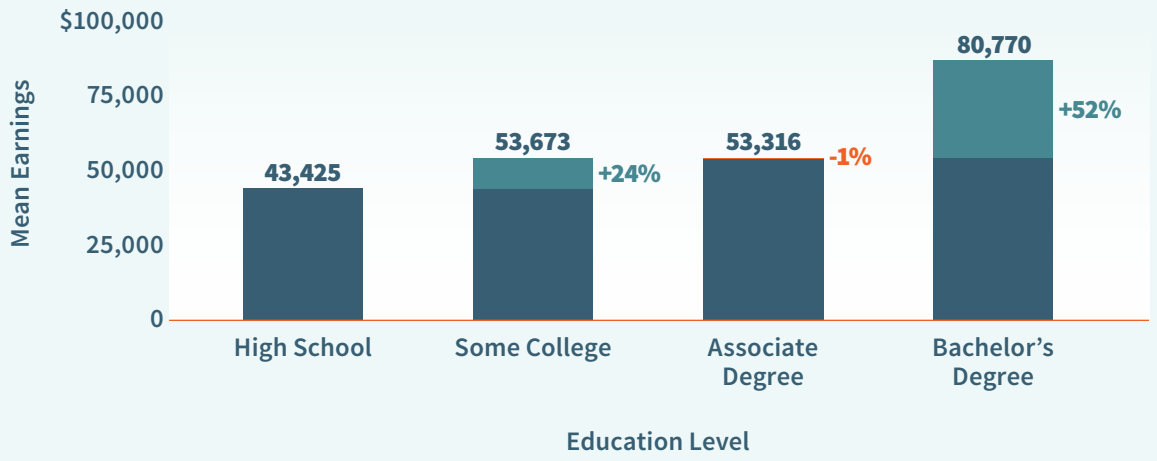
Figure SC-1. South Carolina mean earnings by education level



Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The percentage change in teal notes the difference from the next-highest level of education in the figure.

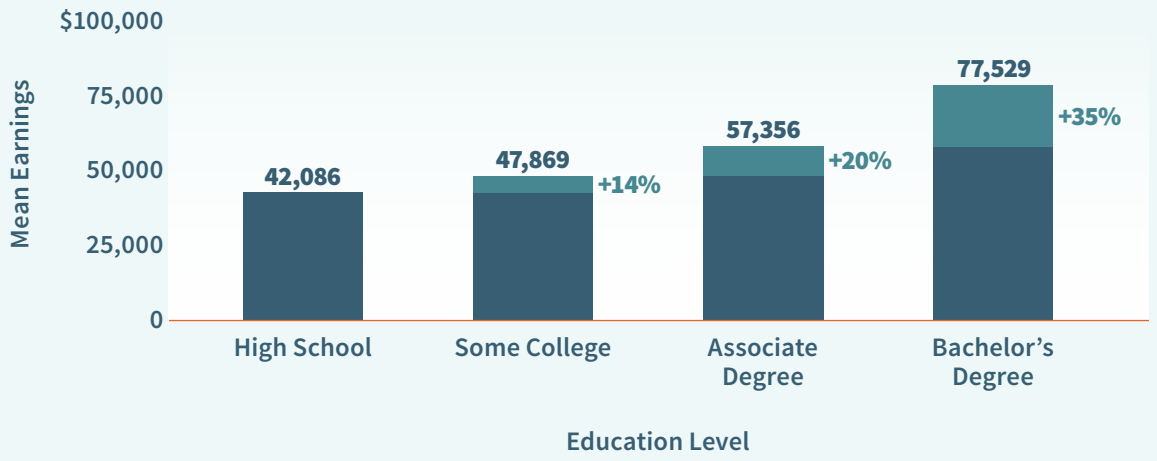
The largest MSA in South Carolina is Greenville-Anderson-Mauldin. On average, workers with bachelor's degrees earn 51.5 percent more than those with associate degrees ($80,770 versus $53,316) and 86.0 percent more than those with high school diplomas (Figure SC-2). The second largest MSA in South Carolina is Columbia. On average, workers with bachelor's degrees earn 35.2 percent more than those with associate degrees ($77,529 versus $57,356) and 84.2 percent more than those with high school diplomas (Figure SC-3).

Figure SC-2. Greenville-Anderson-Mauldin MSA mean earnings by education level



Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The percentage change in teal notes the increase from the next-highest level of education in the figure, and the percentage change in orange notes a decrease from the next-highest level of education.

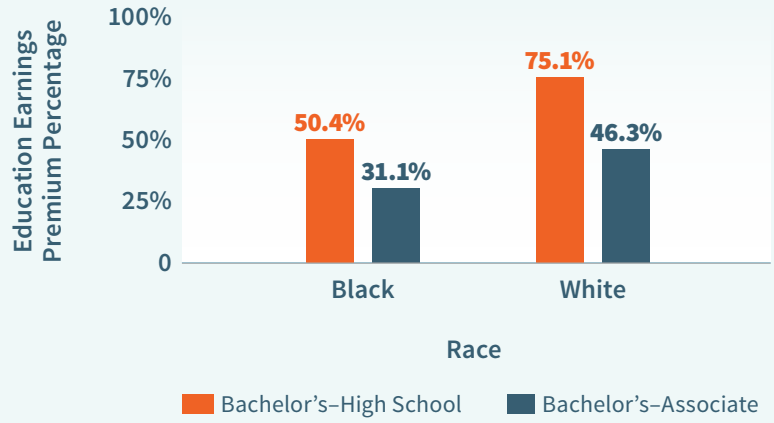
Figure SC-3. Columbia MSA mean earnings by education level



Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The percentage change in teal notes the difference from the next-highest level of education in the figure.

Education earnings premiums by race show that premiums are higher for white workers than for black workers. Black bachelor's degree holders in South Carolina earn 31.1 percent more than black workers with associate degrees in the state and 50.4 percent more than black high school graduates. For white workers in South Carolina, bachelor's degree holders enjoy a 46.3 percent premium over associate degree holders and a 75.1 percent earnings premium relative to high school graduates (Figure SC-4).

Figure SC-4. Education earnings premiums by race in South Carolina



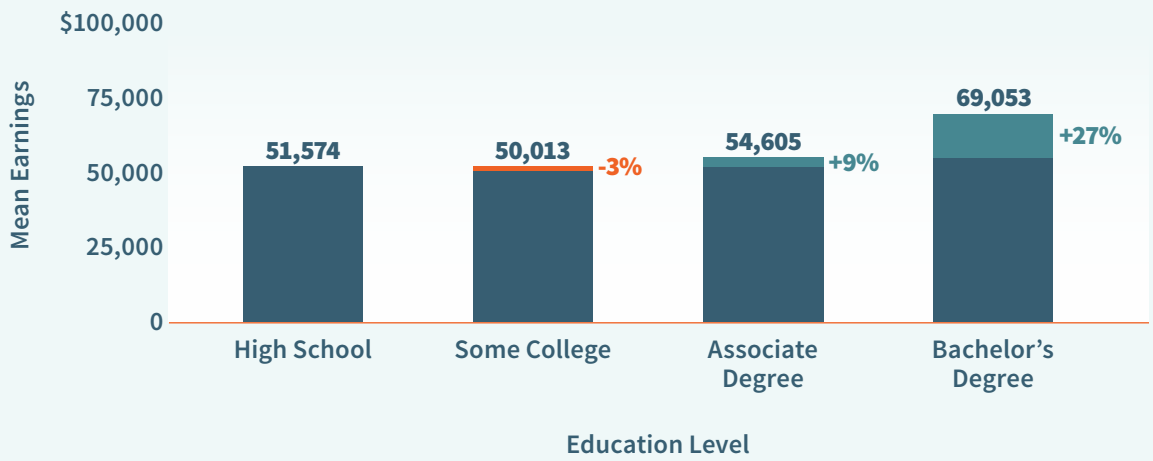
Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The analysis by race/ethnicity is restricted to those jurisdictions with at least ninety workers in the sample by both state and race/ethnicity for each of the three analyzed education groups (high school graduates, workers with associate degrees, and workers with bachelor's degrees).

South Dakota

On average, South Dakotans with bachelor's degrees earn 26.5 percent more than those with associate degrees ($69,053 versus $54,605) and 33.9 percent more than those with high school diplomas (Figure SD-1).

South Dakota has no MSA with population greater than 500,000.

Figure SD-1. South Dakota mean earnings by education level

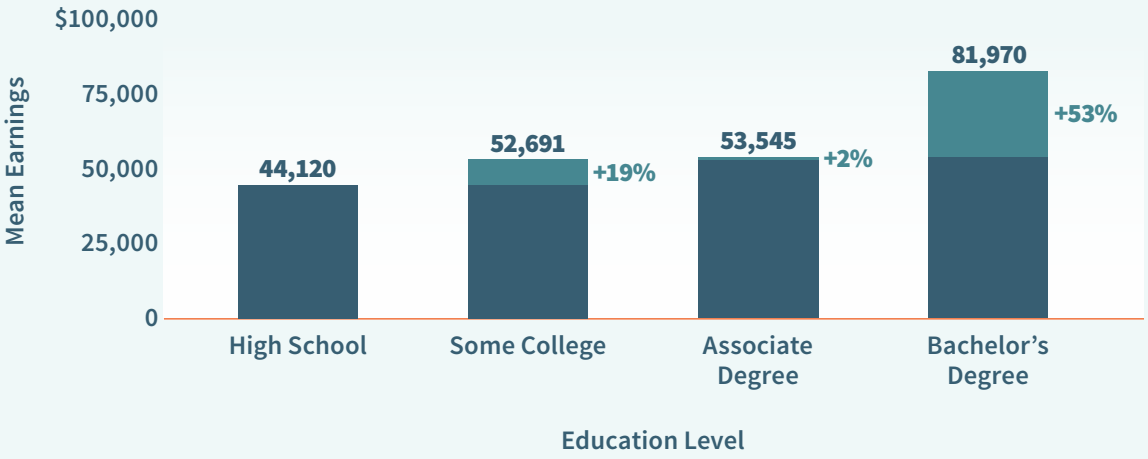


Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The percentage change in teal notes the increase from the next-highest level of education in the figure, and the percentage change in orange notes a decrease from the next-highest level of education.

Tennessee

On average, Tennesseans with bachelor's degrees earn 53.1 percent more than those with associate degrees ($81,970 versus $53,545) and 85.8 percent more than those with high school diplomas (Figure TN-1).

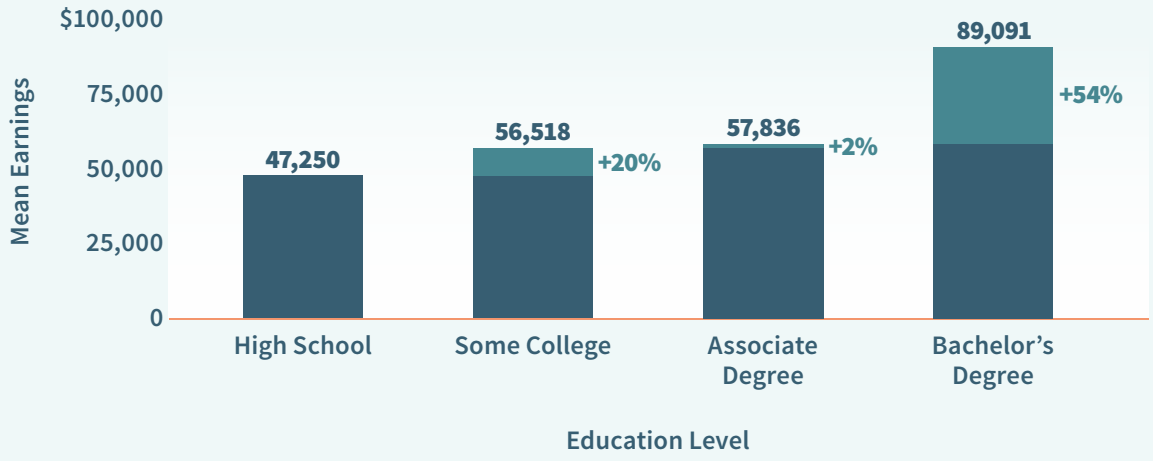
Figure TN-1. Tennessee mean earnings by education level



Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The percentage change in teal notes the difference from the next-highest level of education in the figure.

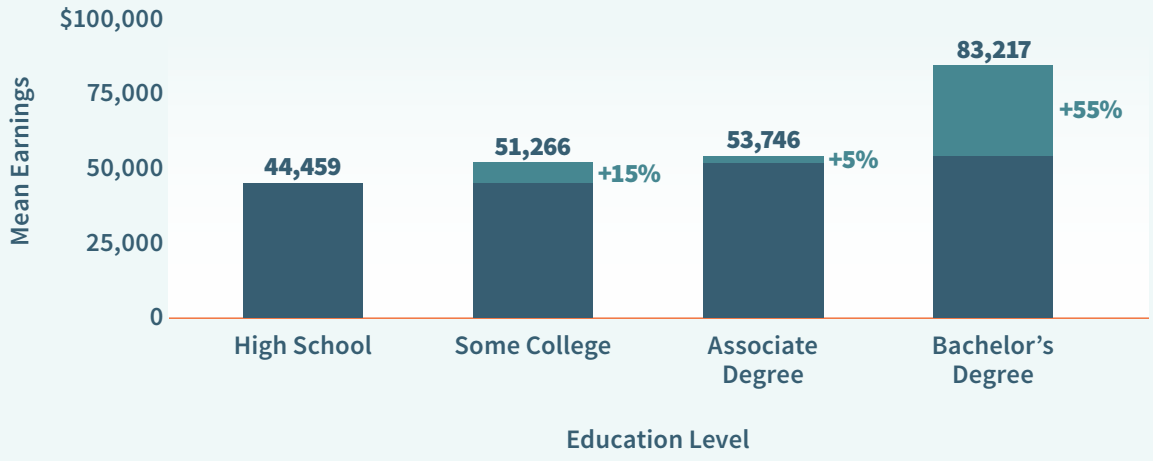
The largest MSA in Tennessee is Nashville-Davidson-Murfreesboro-Franklin. On average, workers with bachelor's degrees earn 54.0 percent more than those with associate degrees ($89,091 versus $57,836) and 88.6 percent more than those with high school diplomas (Figure TN-2). The second largest MSA in Tennessee is Memphis. On average, workers with bachelor's degrees earn 54.8 percent more than those with associate degrees ($83,217 versus $53,746) and 87.2 percent more than those with high school diplomas (Figure TN-3).

Figure TN-2. Nashville-Davidson-Murfreesboro-Franklin MSA mean earnings by education level



Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The percentage change in teal notes the difference from the next-highest level of education in the figure.

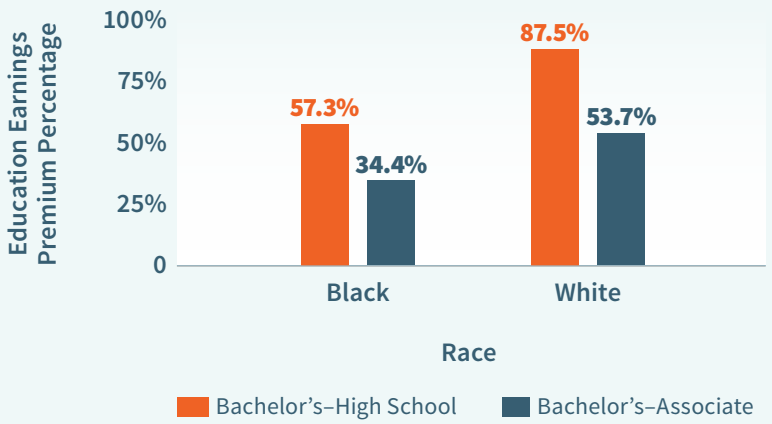
Figure TN-3. Memphis MSA mean earnings by education level



Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The percentage change in teal notes the difference from the next-highest level of education in the figure.

Education earnings premiums by race show that premiums are higher for white workers than for black workers. Black bachelor's degree holders in Tennessee earn 34.4 percent more than black workers with associate degrees in the state and 57.3 percent more than black high school graduates. For white workers in Tennessee, bachelor's degree holders enjoy a 53.7 percent premium over associate degree holders and an 87.5 percent earnings premium relative to high school graduates (Figure TN-4).

Figure TN-4. Education earnings premiums by race in Tennessee

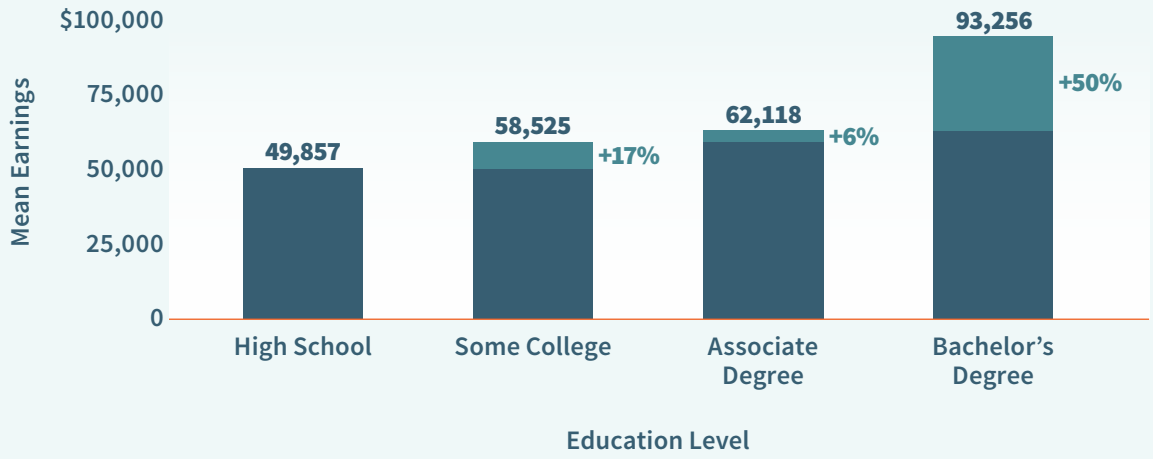


Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The analysis by race/ethnicity is restricted to those jurisdictions with at least ninety workers in the sample by both state and race/ethnicity for each of the three analyzed education groups (high school graduates, workers with associate degrees, and workers with bachelor's degrees).

Texas

On average, Texans with bachelor's degrees earn 50.1 percent more than those with associate degrees ($93,256 versus $62,118) and 87.0 percent more than those with high school diplomas (Figure TX-1).

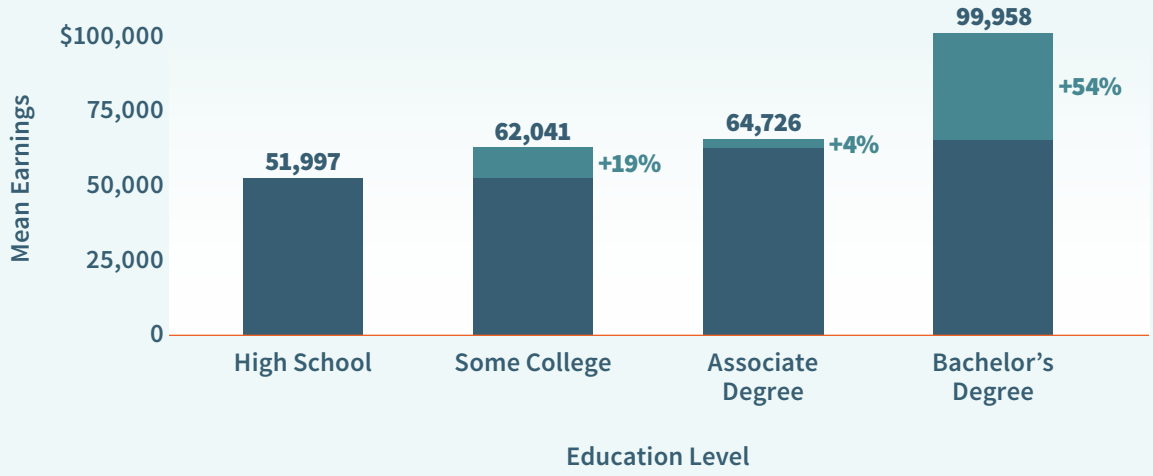
Figure TX-1. Texas mean earnings by education level



Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The percentage change in teal notes the difference from the next-highest level of education in the figure.

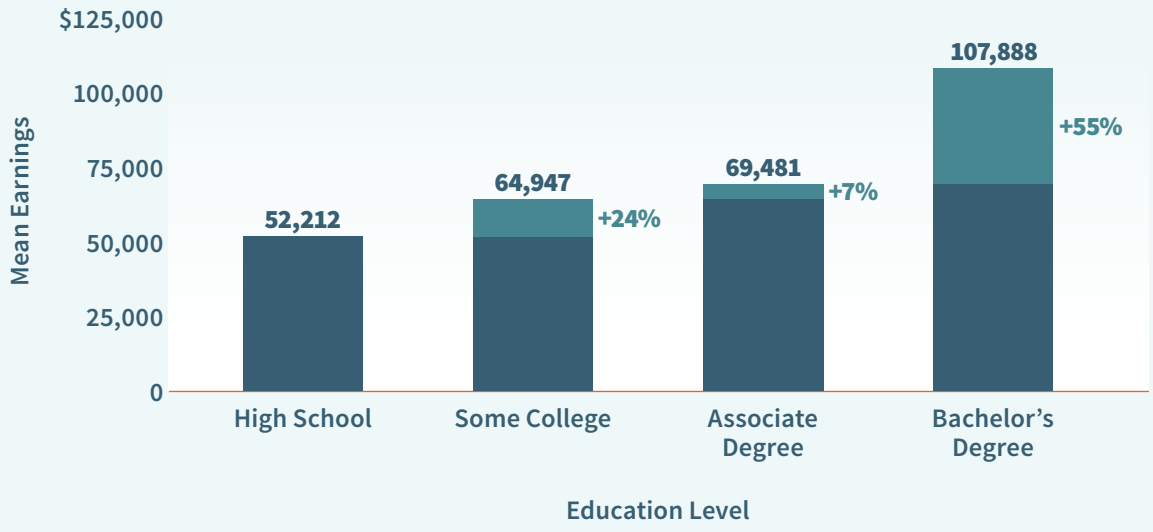
The largest MSA in Texas is Dallas-Fort Worth-Arlington. On average, workers with bachelor's degrees earn 54.4 percent more than those with associate degrees ($99,958 versus $64,726) and 92.2 percent more than those with high school diplomas (Figure TX-2). The second largest MSA in Texas is Houston-The Woodlands-Sugar Land. On average, workers with bachelor's degrees earn 55.3 percent more than those with associate degrees ($107,888 versus $69,481) and 106.6 percent more than those with high school diplomas (Figure TX-3).

Figure TX-2. Dallas-Fort Worth-Arlington MSA mean earnings by education level



Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The percentage change in teal notes the difference from the next-highest level of education in the figure.

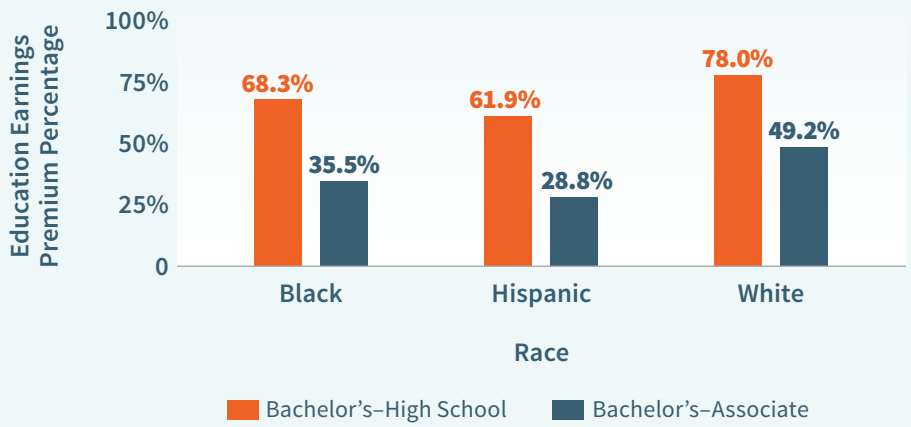
Figure TX-3. Houston-The Woodlands-Sugar Land MSA mean earnings by education level



Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The percentage change in teal notes the difference from the next-highest level of education in the figure.

Education earnings premiums by race show that premiums are higher for white workers than for black and Hispanic workers. Black bachelor's degree holders in Texas earn 35.5 percent more than black workers with associate degrees in the state and 68.3 percent more than black high school graduates. Hispanic bachelor's degree holders earn 28.8 percent more than Hispanic workers with associate degrees and 61.9 percent more than Hispanic high school graduates in the state. For white workers in Texas, bachelor's degree holders enjoy a 49.2 percent premium over associate degree holders and a 78.0 percent earnings premium relative to high school graduates (Figure TX-4).

Figure TX-4. Education earnings premiums by race in Texas

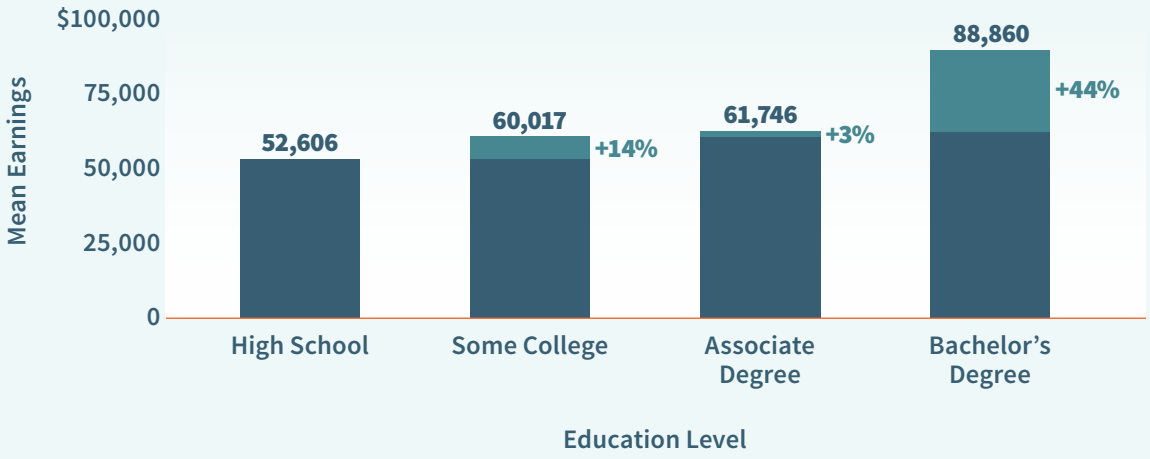


Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The analysis by race/ethnicity is restricted to those jurisdictions with at least ninety workers in the sample by both state and race/ethnicity for each of the three analyzed education groups (high school graduates, workers with associate degrees, and workers with bachelor's degrees).

Utah

On average, Utahans with bachelor's degrees earn 43.9 percent more than those with associate degrees ($88,860 versus $61,746) and 68.9 percent more than those with high school diplomas (Figure UT-1).

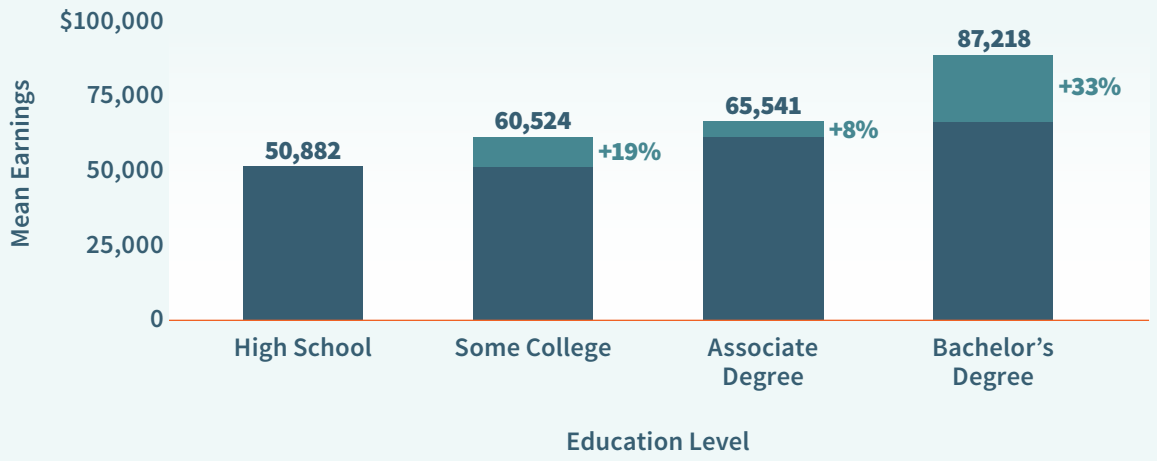
Figure UT-1. Utah mean earnings by education level



Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The percentage change in teal notes the difference from the next-highest level of education in the figure.

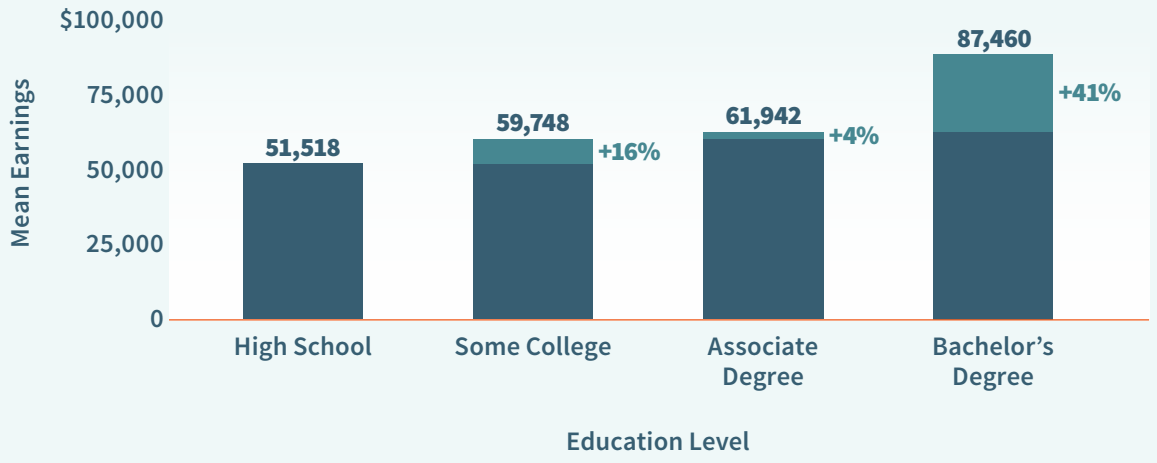
The largest MSA in Utah is Salt Lake City. On average, workers with bachelor's degrees earn 33.1 percent more than those with associate degrees ($87,218 versus $65,541) and 71.4 percent more than those with high school diplomas (Figure UT-2). The second largest MSA in Utah is Ogden-Clearfield. On average, workers with bachelor's degrees earn 41.2 percent more than those with associate degrees ($87,460 versus $61,942) and 69.8 percent more than those with high school diplomas (Figure UT-3).

Figure UT-2. Salt Lake City MSA mean earnings by education level



Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The percentage change in teal notes the difference from the next-highest level of education in the figure.

Figure UT-3. Ogden-Clearfield MSA mean earnings by education level



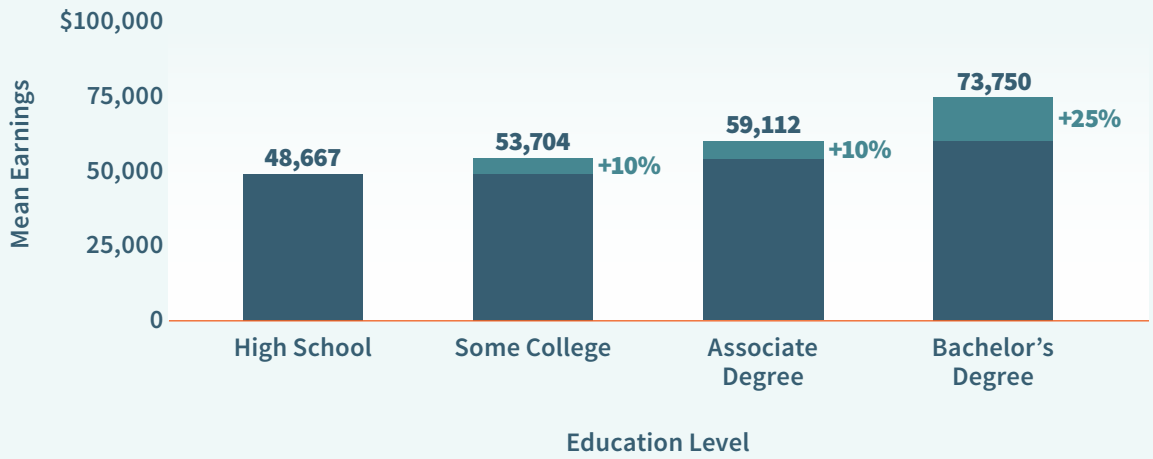
Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The percentage change in teal notes the difference from the next-highest level of education in the figure.

Vermont

On average, Vermonters with bachelor's degrees earn 24.8 percent more than those with associate degrees ($73,750 versus $59,112) and 51.5 percent more than those with high school diplomas (Figure VT-1).

Vermont has no MSA with population greater than 500,000.

Figure VT-1. Vermont mean earnings by education level

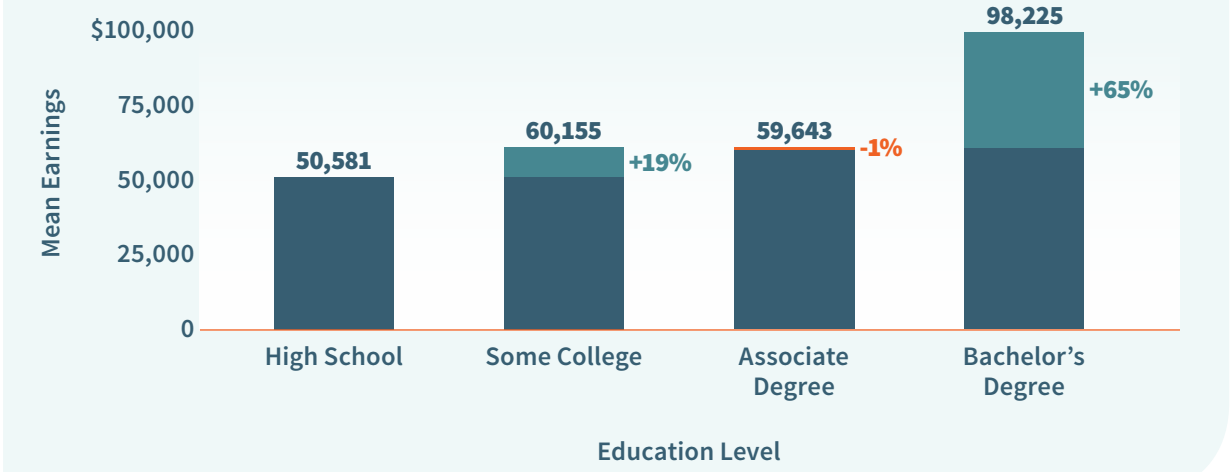


Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The percentage change in teal notes the difference from the next-highest level of education in the figure.

Virginia

On average, Virginians with bachelor's degrees earn 64.7 percent more than those with associate degrees ($98,225 versus $59,643) and 94.2 percent more than those with high school diplomas (Figure VA-1).

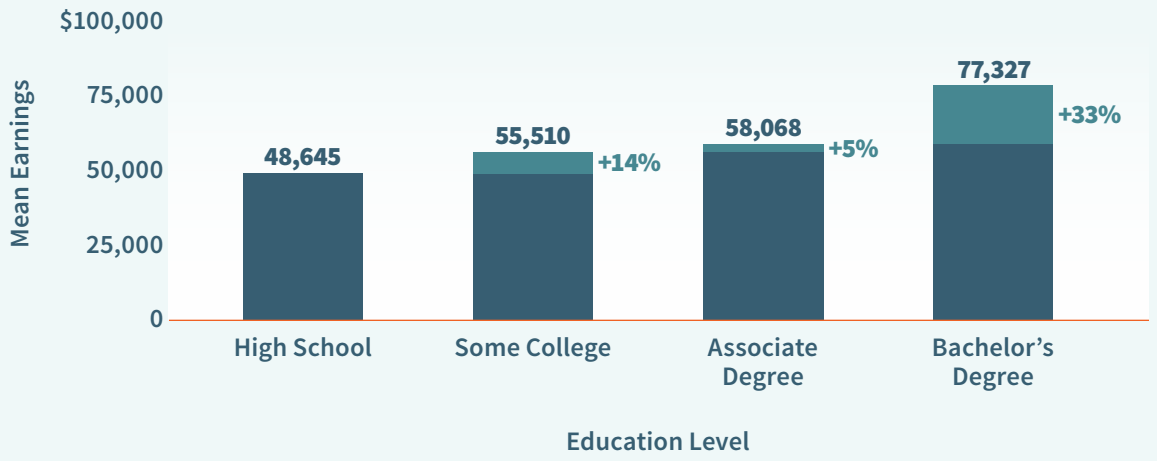
Figure VA-1. Virginia mean earnings by education level



Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The percentage change in teal notes the increase from the next-highest level of education in the figure, and the percentage change in orange notes a decrease from the next-highest level of education.

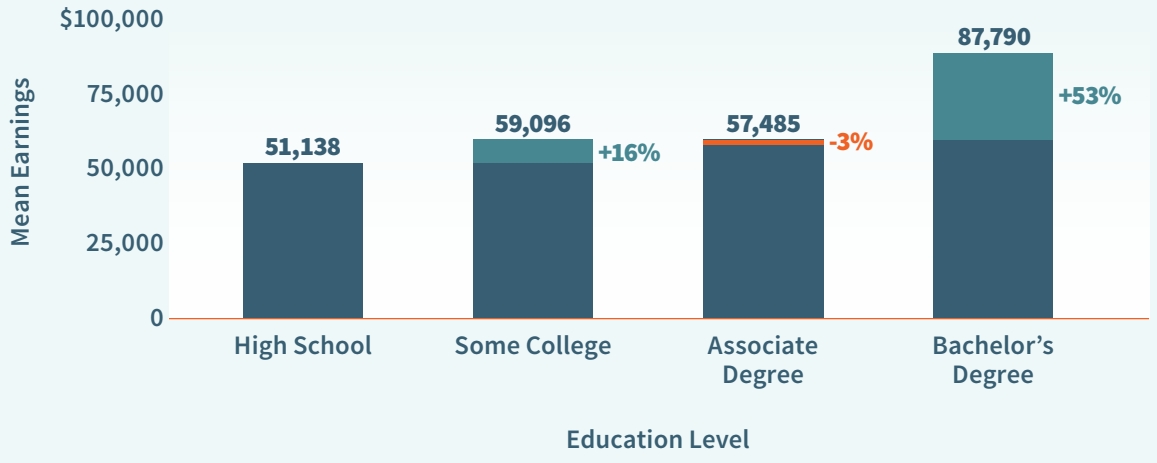
The largest MSA in Virginia is Virginia Beach-Norfolk-Newport News. On average, workers with bachelor's degrees earn 33.2 percent more than those with associate degrees ($77,327 versus $58,068) and 59.0 percent more than those with high school diplomas (Figure VA-2). The second largest MSA in Virginia is Richmond. On average, workers with bachelor's degrees earn 52.7 percent more than those with associate degrees ($87,790 versus $57,485) and 71.7 percent more than those with high school diplomas (Figure VA-3).

Figure VA-2. Virginia Beach-Norfolk-Newport News MSA mean earnings by education level



Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The percentage change in teal notes the difference from the next-highest level of education in the figure.

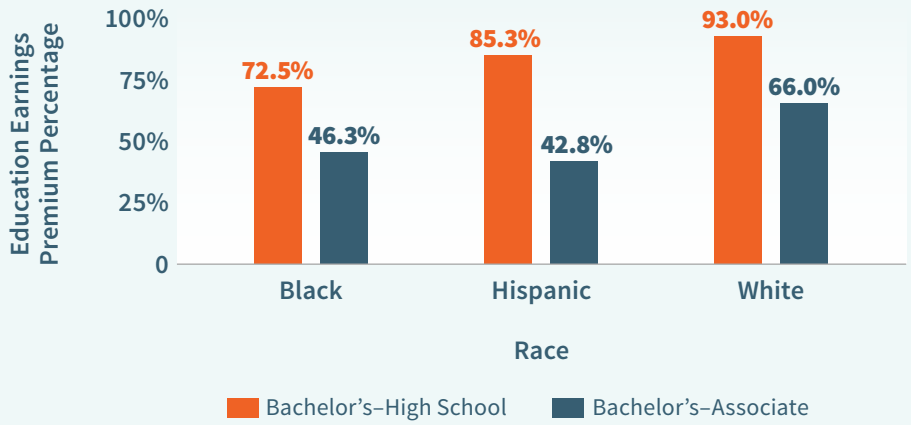
Figure VA-3. Richmond MSA mean earnings by education level



Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The percentage change in teal notes the increase from the next-highest level of education in the figure, and the percentage change in orange notes a decrease from the next-highest level of education.

Education earnings premiums by race show that premiums are higher for white workers than for black and Hispanic workers. Black bachelor's degree holders in Virginia earn 46.3 percent more than black workers with associate degrees in the state and 72.5 percent more than black high school graduates. Hispanic bachelor's degree holders earn 42.8 percent more than Hispanic workers with associate degrees and 85.3 percent more than Hispanic high school graduates in the state. For white workers, bachelor's degree holders enjoy a 66.0 percent premium over associate degree holders and a 93.0 percent earnings premium relative to high school graduates (Figure VA-4).

Figure VA-4. Education earnings premiums by race in Virginia

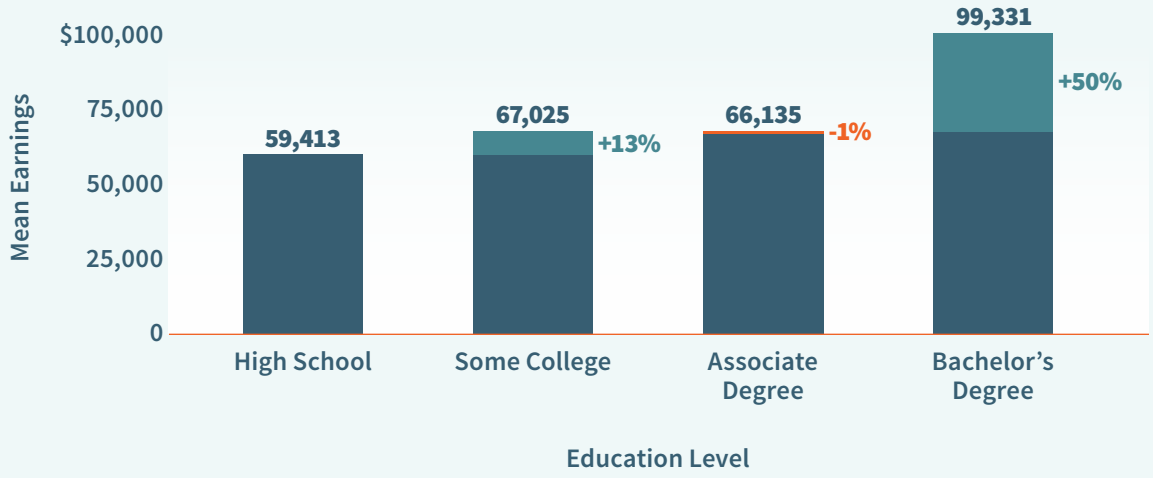


Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The analysis by race/ethnicity is restricted to those jurisdictions with at least ninety workers in the sample by both state and race/ethnicity for each of the three analyzed education groups (high school graduates, workers with associate degrees, and workers with bachelor's degrees).

Washington

On average, Washingtonians with bachelor's degrees earn 50.2 percent more than those with associate degrees ($99,331 versus $66,135) and 67.2 percent more than those with high school diplomas (Figure WA-1).

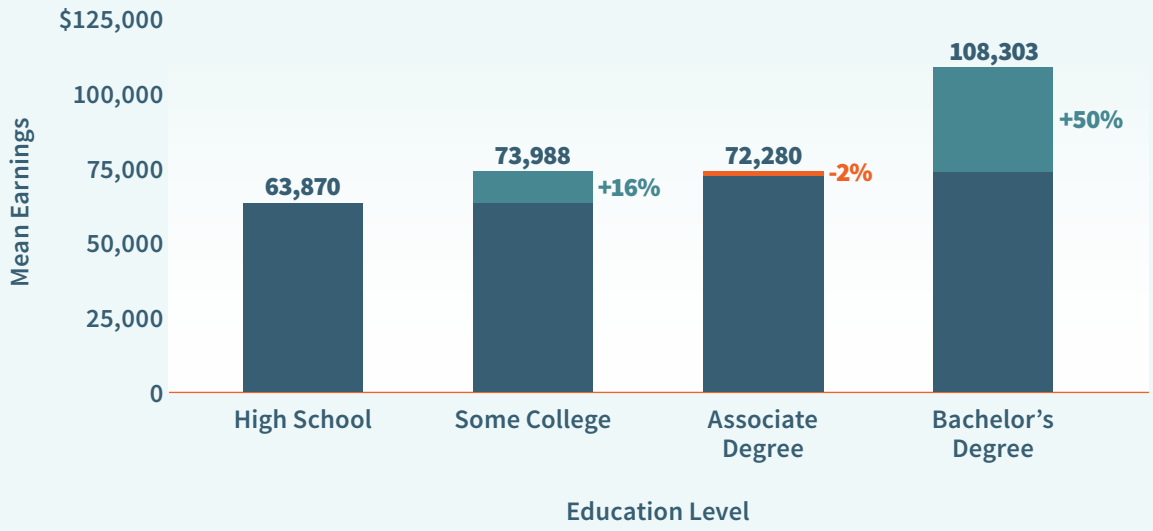
Figure WA-1. Washington mean earnings by education level



Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The percentage change in teal notes the increase from the next-highest level of education in the figure, and the percentage change in orange notes a decrease from the next-highest level of education.

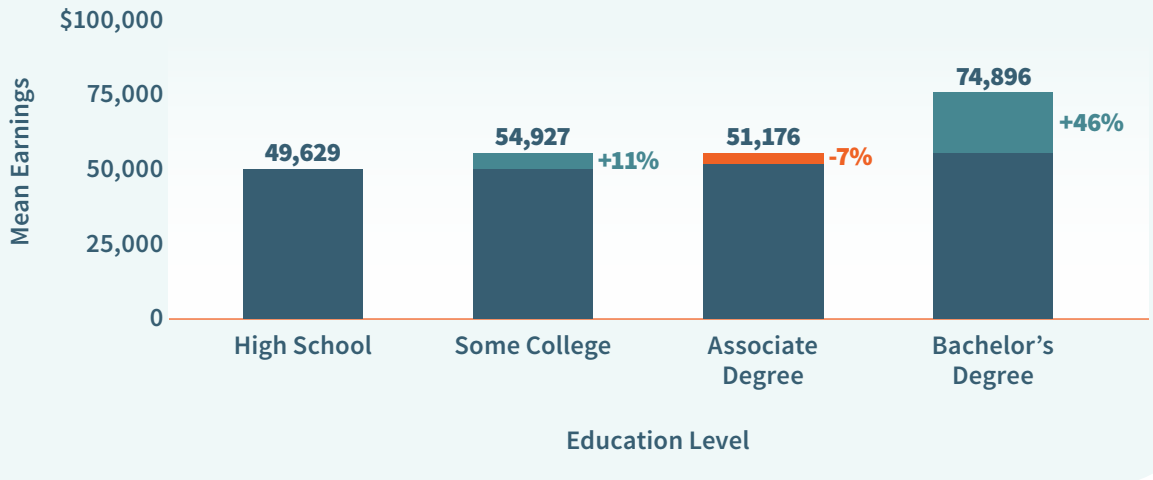
The largest MSA in Washington is Seattle-Tacoma-Bellevue. On average, workers with bachelor's degrees earn 49.8 percent more than those with associate degrees ($108,303 versus $72,280) and 69.6 more than those with high school diplomas (Figure WA-2). The second largest MSA in Washington is Spokane-Spokane Valley. On average, workers with bachelor's degrees earn 46.3 percent more than those with associate degrees ($74,896 versus $51,176) and 50.9 percent more than those with high school diplomas (Figure WA-3).

Figure WA-2. Seattle-Tacoma-Bellevue MSA mean earnings by education level



Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The percentage change in teal notes the increase from the next-highest level of education in the figure, and the percentage change in orange notes a decrease from the next-highest level of education.

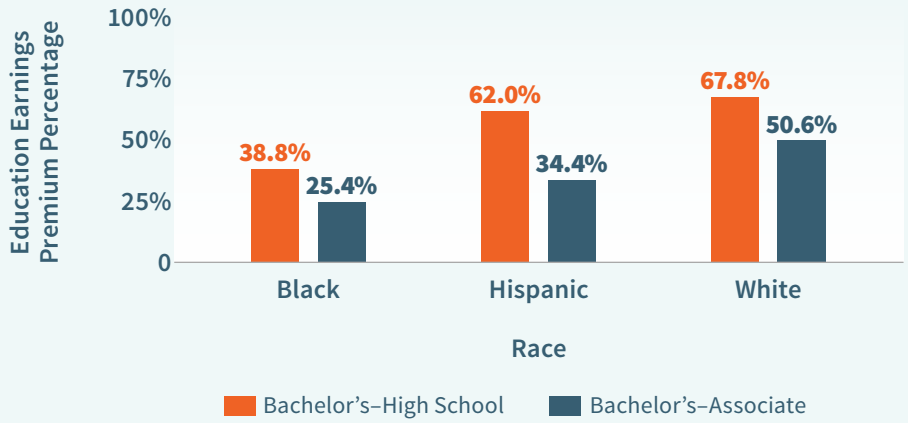
Figure WA-3. Spokane-Spokane Valley MSA mean earnings by education level



Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The percentage change in teal notes the increase from the next-highest level of education in the figure, and the percentage change in orange notes a decrease from the next-highest level of education.

Education earnings premiums by race show that premiums are higher for white workers than for black and Hispanic workers. Black bachelor's degree holders in Washington earn 25.4 percent more than black workers with associate degrees in the state and 38.8 percent more than black high school graduates. Hispanic bachelor's degree holders earn 34.4 percent more than Hispanic workers with associate degrees and 62.0 percent more than Hispanic high school graduates in the state. For white workers in Washington, bachelor's degree holders enjoy a 50.6 percent premium over associate degree holders and a 67.8 percent earnings premium relative to high school graduates (Figure WA-4).

Figure WA-4. Education earnings premiums by race in Washington



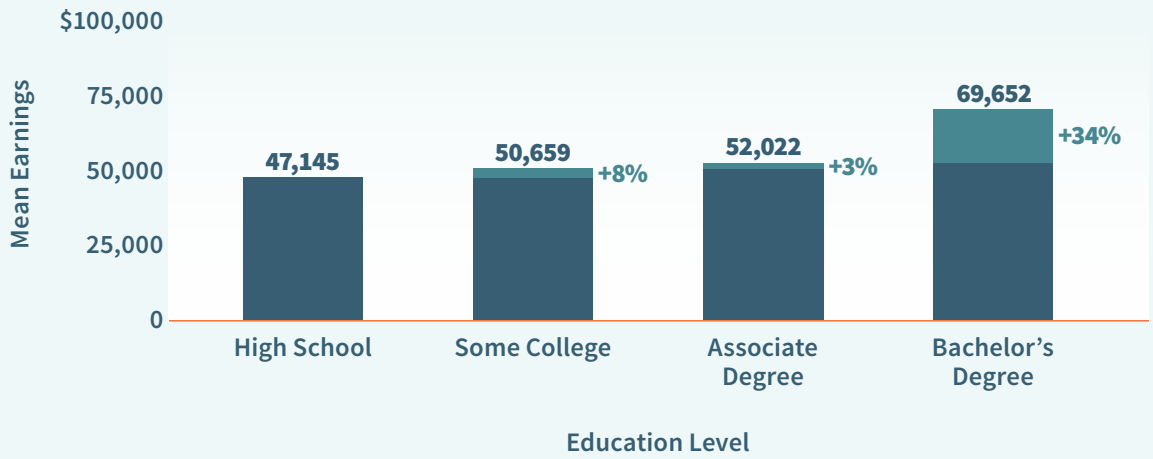
Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The analysis by race/ethnicity is restricted to those jurisdictions with at least ninety workers in the sample by both state and race/ethnicity for each of the three analyzed education groups (high school graduates, workers with associate degrees, and workers with bachelor's degrees).

West Virginia

On average, West Virginians with bachelor's degrees earn 33.9 percent more than those with associate degrees ($69,652 versus $52,022) and 47.7 percent more than those with high school diplomas (Figure WV-1).

West Virginia has no MSA with population greater than 500,000.

Figure WV-1. West Virginia mean earnings by education level

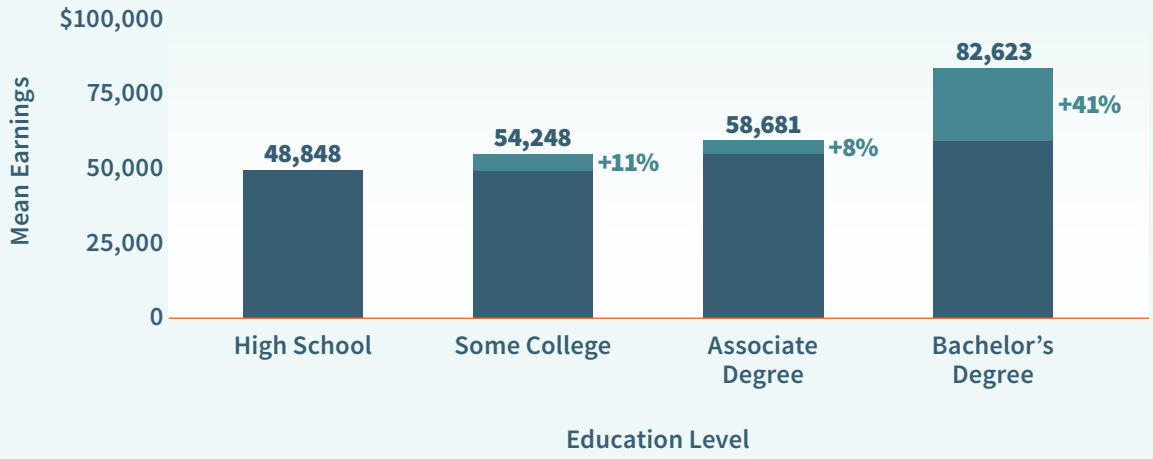


Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The percentage change in teal notes the difference from the next-highest level of education in the figure.

Wisconsin

On average, Wisconsinites with bachelor's degrees earn 40.8 percent more than those with associate degrees ($82,623 versus $58,681) and 69.1 percent more than those with high school diplomas (Figure WI-1).

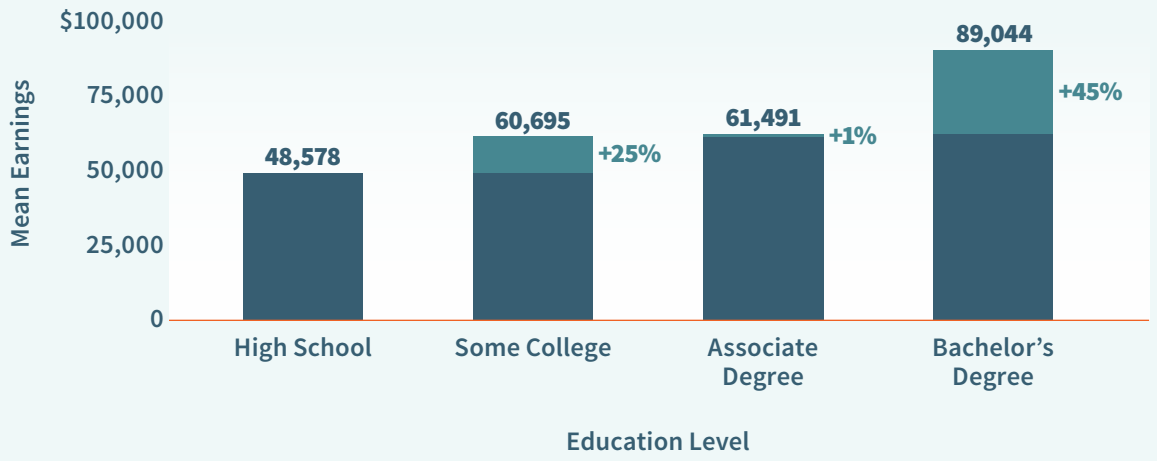
Figure WI-1. Wisconsin mean earnings by education level



Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The percentage change in teal notes the difference from the next-highest level of education in the figure.

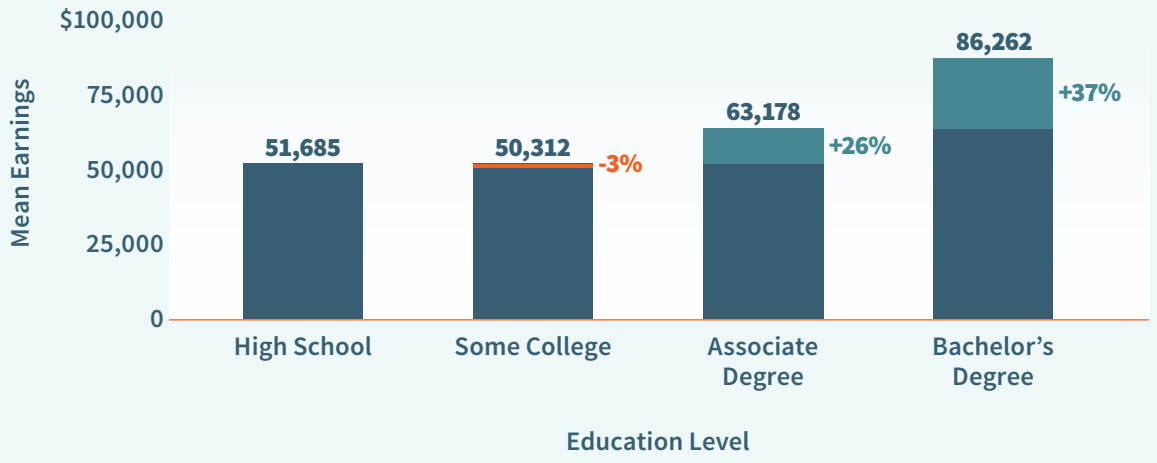
The largest MSA in Wisconsin is Milwaukee-Waukesha-West Allis. On average, workers with bachelor's degrees earn 44.8 percent more than those with associate degrees ($89,044 versus $61,491) and 83.3 percent more than those with high school diplomas (Figure WI-2). The second largest MSA in Wisconsin is Madison. On average, workers with bachelor's degrees earn 36.5 percent more than those with associate degrees ($86,262 versus $63,178) and 66.9 percent more than those with high school diplomas (Figure WI-3).

Figure WI-2. Milwaukee-Waukesha-West Allis MSA mean earnings by education level



Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The percentage change in teal notes the difference from the next-highest level of education in the figure.

Figure WI-3. Madison MSA mean earnings by education level



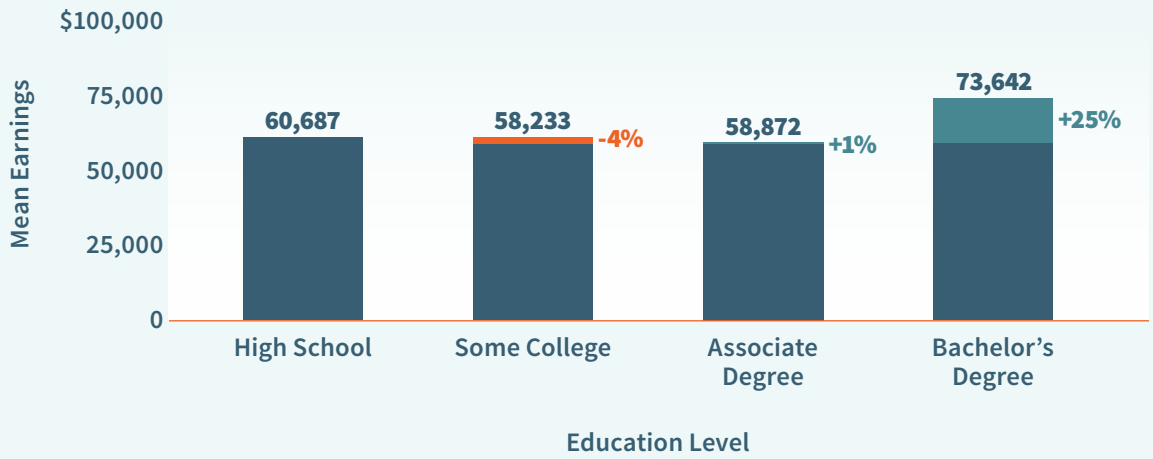
Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The percentage change in teal notes the increase from the next-highest level of education in the figure, and the percentage change in orange notes a decrease from the next-highest level of education.

Wyoming

On average, Wyomingites with bachelor's degrees earn 25.1 percent more than those with associate degrees ($73,642 versus $58,872) and 21.3 percent more than those with high school diplomas (Figure WY-1).

Wyoming has no MSA with population greater than 500,000.

Figure WY-1. Wyoming mean earnings by education level



Note: Based on author's calculations from the American Community Survey. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The percentage change in teal notes the increase from the next-highest level of education in the figure, and the percentage change in orange notes a decrease from the next-highest level of education.

Endnotes

1. Based on the author's calculations from the ACS.

2. The report does not focus on workers with graduate degrees because bachelor's degrees are generally necessary for graduate-program enrollment. Earnings for graduate degree holders reflect both their bachelor's degrees and graduate degrees, and few young people are making marginal decisions between no college and completing a graduate degree.

3. Readers may also be interested in the College Scorecard project conducted by the U.S. Department of Education with information on earnings by institution at https://collegescorecard.ed.gov.

4. Michael Spence, "Job market signaling," *Quarterly Journal of Economics* 87, no. 3 (1973): 355–74.

5. Jennifer Ma, Matea Pender, and Meredith Welch, "Education Pays 2016: The Benefits of Higher Education for Individuals and Society," *Trends in Higher Education Series* (New York, NY: College Board, 2016), https://trends.collegeboard.org/sites/default/files/education-pays-2016-full-report.pdf; and Philip Oreopoulos and Uros Petronijevic, "Making college worth it: A review of the returns to higher education," *The Future of Children* 23, no. 1 (2013): 41–65.

6. Full-time work is defined as forty or more hours per week. Full-year work is defined as fifty or more weeks during the year, including time for paid vacation and sick leave. Foreign-born workers are excluded because much of their human-capital investments may have occurred before entering the U.S. and some of their prior human capital may not directly transfer to the U.S. labor market. Workers under age thirty are excluded because they are often still finishing their education and figuring out their career paths. Older workers often transition toward partial retirement and make employment decisions with nonfinancial motivations playing a major role. Part-time and part-year workers may also be weakly attached to the labor market and have various nonfinancial motivations. The data were accessed via IPUMS-USA from https://usa.ipums.org/usa. Steven Ruggles, Sarah Flood, Ronald Goeken, Josiah Grover, Erin Meyer, Jose Pacas and Matthew Sobek, "IPUMS USA: Version 9.0 [dataset]" (Minneapolis, MN: IPUMS, 2019), https://doi.org/10.18128/D010.V9.0.

7. Including part-year workers would also complicate the analysis because one cannot observe and account for the exact number of weeks they work; the ACS only reports weeks worked in broad intervals. Workers with different education levels and locations can differ in weeks worked, and failing to account for this can alter the interpretation of earnings differences.

8. Table A2 illustrates how national mean earnings by education and corresponding CEPs vary with altering the sample restrictions. Broadening the sample by defining full-time, full-year workers as those working at least forty-eight weeks per year and at least thirty-five hours per week decreases mean earnings for each education level as expected, but the CEPs are very similar to the main sample. Relaxing the age restriction to include persons ages twenty-two and up also yields lower mean earnings, especially for bachelor's degree holders, resulting in moderately reduced bachelor's degree earnings premiums. Including immigrants reduces mean earnings for each education group but increases the CEPs slightly.

9. The high school diploma group excludes GED recipients. The group with some college but no degree includes both persons who have earned technical certificates (but no degree) from colleges and persons who enrolled in a college degree or certificate program but did not complete it. The associate degree group includes both vocational and academic two-year degree programs. Lastly, the bachelor's degree group includes only persons whose highest education is a bachelor's degree; persons with a graduate degree are excluded from this group, but they are briefly examined as a separate group in the appendix tables.

10. College Atlas, "Most Popular Associate Degrees by Gender," June 29, 2018, https://www.collegeatlas.org/top-associate-degrees-by-gender.

11. For more information on the value of nondegree credentials, see Amy Ellen Duke-Benfield, Bryan Wilson, Kermit Kaleba, and Jenna Leventoff, *Expanding Opportunities: Defining Quality Non-Degree Credentials for States* (Washington, D.C.: National Skills Coalition, September 2019).

12. In *Appendix A*, Table A3 reports the standard deviation and coefficient of variation across states for mean earnings by education level and the earnings premiums to assess the relative dispersion across states. Notably, these measures indicate that mean earnings for workers with bachelor's degrees are considerably more dispersed across states than means for workers with high school diplomas, some college, and associate degrees. Table A4 reports the mean earnings by education level and the CEPs for all fifty states and D.C. Table A5 replicates table A4 but does so by limiting the sample to workers residing in their state of birth and thus excludes in-migrants who may make migration decisions in response to earnings levels and premiums; estimates are largely similar. Table A6 reports median earnings by education level and CEPs by state. Medians are typically smaller than means, and bachelor's degree to high school graduate earnings premiums are often smaller for medians than means. However, the patterns across states are generally similar. In other words, states that rank highly via means also rank highly via medians.

13. More than 90 percent of the U.S. population lives in metropolitan areas, and areas that do not fall within an MSA can be considered nonurban areas. *Appendix C* provides more detail on how individuals are linked to metropolitan and nonmetropolitan areas.

14. Edward L. Glaeser and David C. Maré, "Cities and Skills," *Journal of Labor Economics* 19, no. 2 (2001): 316–42; Jeffrey J. Yankow, "Why Do Cities Pay More? An Empirical Examination of Some Competing Theories of the Urban Wage Premium," *Journal of Urban Economics* 60, no. 2 (2006): 139–61; and Nathaniel Baum-Snow and Ronni Pavan, "Understanding the City Size Wage Gap," *The Review of Economic Studies* 79, no. 1 (2012): 88–127.

15. Edward L. Glaeser and Matthew G. Resseger, "The Complementarity between Cities and Skills," *Journal of Regional Science* 50, no. 1 (2010): 221–44; Nathaniel Baum-Snow, Matthew Freedman, and Ronni Pavan, "Why Has Urban Inequality Increased?" *American Economic Journal: Applied Economics* 10, no. 4 (2018): 1–42; David H. Autor, "Work of the Past, Work of the Future," *AEA Papers and Proceedings* 109 (2019): 1–32; and Farid Farrokhi and David Jinkins, "Wage Inequality and the Location of Cities," *Journal of Urban Economics* 111 (2019): 76–92.

16. In 2010, these four MSA groups accounted for 27.1 percent (less than 0.5 million), 16.8 percent (0.5 million to 1.5 million), 18.1 percent (1.5 million to four million), and 31.8 percent (more than four million) of the U.S. population, respectively.

17. Table A10 reports median earnings for the four main education groups by MSA status and MSA population size. Medians are consistently less than means, as discussed previously, but the patterns across education and MSAs' status and size are similar to that for means in Figure 1.

18. Paul Campos, "The Real Reason College Tuition Costs So Much," *New York Times*, April 4, 2015, https://www.nytimes.com/2015/04/05/opinion/sunday/the-real-reason-college-tuition-costs-so-much.html.

19. Many states are divided into community college districts, which help fund local two-year colleges via property taxes or other local revenue sources. Students who reside in a district pay the in-district rate. Students residing within the state but outside the district typically pay a slightly higher in-state rate that is still well below the out-of-state rate. For data on the cost of tuition at two-year and four-year institutions in each state, see Table A12.

20. This exercise is similar in spirit but different in assumptions and implementation to the following: Lee J. Miller and Wei Lu, "College Education 'Opportunity Cost' Depends on Where You Live," *Bloomberg News*, July 13, 2019, accessed December 11, 2019, https://www.bloomberg.com/news/articles/2019-07-13/college-education-opportunity-cost-depends-on-where-you-live.

21. The $30,000 assumption for lost earnings is less than the average earnings for high school graduates reported previously because (1) college students are typically younger and would earn lower wages than the average adult high school graduate in the analytic sample and (2) college students are still able to participate in paid employment and earn some income.

22. Full data are shown in Table A11.

23. These workers are non-Hispanic unless otherwise noted.

24. This section classifies workers into mutually exclusive racial/ethnic groups including Asian, black, Hispanic, and white. Although some workers do not fit into these groups, they are not examined because of small sample sizes. CEPs are computed for these groups for selected states with relatively large sample sizes. Even for the relatively large minority groups, sample sizes are small in some states. This analysis by race/ethnicity is restricted to those jurisdictions with at least ninety workers in the analytical sample by state and race/ethnicity for each of the three analyzed education groups (high school graduates, workers with associate degrees, and workers with bachelor's degrees). This includes all fifty states for white workers, twenty-seven states for black workers, twenty states for Hispanic workers, and only two states for Asian workers. To see incomes for each state and education level by racial/ethnic group, see *Appendix B*.

25. Philip Hoxie, Daniel Shoag, and Stan Veuger, "Moving to density: Half a century of housing costs and wage premia from Queens to King Salmon," AEI Economics Working Paper, December 2019, https://www.aei.org/wp-content/uploads/2020/01/Hoxie-Shoag-Veuger-Moving-to-Density-WP.pdf.

26. Kevin Carey, "When Higher Education Doesn't Deliver on Its Promise," *New York Times*, October 4, 2014.

27. Advance CTE, "New Skills for Youth Phase One Snapshot: Kentucky" (Silver Spring, MD: Advance CTE, 2017), https://cte.careertech.org/sites/default/files/files/resources/Kentucky_Phase_One_Snapshot_2017.pdf.

28. Advance CTE, "New Skills for Youth 2018 Snapshot: Wisconsin" (Silver Spring, MD: Advance CTE, March 2019), https://careertech.org/resource/wisconsin-2018-nsfy-snapshot.

29. Kentucky recently identified information technology as a promising field in rural and deindustrialized regions, where telecommuting presents the opportunity to earn a high salary without moving or commuting.

30. Unobservable worker characteristics and locational sorting may be influencing the mean earnings of black high school graduates in Connecticut, but it is not clear why such patterns would differ so strongly by education level and yield very low CEPs for black workers in that area.

Appendix A: Additional Tables

NATIONAL TABLES

Table A1. National mean and median earnings by education level

	High School	Some College	Associate Degree	Bachelor's Degree	% Diff Associate–High School	% Diff Bachelor's–High School
Means	$50,151	$58,212	$59,707	$92,608	19.1%	84.7%
Medians	41,951	47,790	51,345	71,883	22.4%	71.4%

Note: Based on the author's calculations from the ACS. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S.

Table A2. National mean earnings by education level for alternative sample restrictions

	High School	Some College	Associate Degree	Bachelor's Degree	% Diff Associate–High School	% Diff Bachelor's–High School
Main sample	$50,151	$58,212	$59,707	$92,608	19.1%	84.7%
Working 48+ weeks and 35+ hours	48,897	56,554	58,323	90,657	19.3%	85.4%
Ages 22+	47,470	54,281	56,949	84,530	20.0%	78.1%
Including immigrants	48,343	57,408	59,133	91,336	22.3%	88.9%

Note: Based on the author's calculations from the ACS. The main sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The other samples change one criterion at a time as indicated while keeping the other criteria the same as the main sample.

STATE TABLES

Table A3. Summary of dispersion across states

	High School	Some College	Associate Degree	Bachelor's Degree	Graduate Degree	% Diff BD–HS	% Diff AD–HS	% Diff BD-AD
Standard deviation	$5,241	$6,286	$5,921	$13,223	$15,246	19.8%	5.5%	13.1%
Coefficient of variation	0.103	0.110	0.100	0.153	0.138	0.286	0.346	0.286

Table A4. Mean earnings by state and education level

STATE	High School	Some College	Associate Degree	Bachelor's Degree	Graduate Degree	% Diff BD–HS	% Diff AD–HS	% Diff BD-AD
Alabama	$46,347	$50,085	$53,315	$77,179	$95,509	66.5%	15.0%	44.8%
Alaska	64,015	68,305	70,539	82,307	110,970	28.6%	10.2%	16.7%
Arizona	48,925	57,633	57,859	88,104	107,881	80.1%	18.3%	52.3%
Arkansas	45,296	49,285	50,466	75,492	95,560	66.7%	11.4%	49.6%
California	55,158	67,769	70,376	108,932	140,086	97.5%	27.6%	54.8%
Colorado	54,117	61,493	59,923	92,777	112,731	71.4%	10.7%	54.8%
Connecticut	60,352	69,555	71,594	118,454	148,611	96.3%	18.6%	65.5%
Delaware	54,523	57,841	64,422	88,754	115,932	62.8%	18.2%	37.8%
District of Columbia	58,119	63,197	64,221	114,706	133,349	97.4%	10.5%	78.6%
Florida	45,789	54,526	55,085	84,033	111,495	83.5%	20.3%	52.6%
Georgia	45,247	53,163	54,799	90,952	106,206	101.0%	21.1%	66.0%
Hawaii	52,684	59,648	59,391	80,236	101,078	52.3%	12.7%	35.1%
Idaho	47,184	52,195	56,550	79,114	100,827	67.7%	19.9%	39.9%
Illinois	52,144	59,258	62,266	98,563	126,705	89.0%	19.4%	58.3%
Indiana	49,119	54,531	55,667	80,723	103,840	64.3%	13.3%	45.0%
Iowa	51,233	52,724	55,755	77,259	106,679	50.8%	8.8%	38.6%
Kansas	47,300	52,715	55,238	82,470	99,560	74.4%	16.8%	49.3%
Kentucky	46,683	52,182	54,499	80,076	97,510	71.5%	16.7%	46.9%
Louisiana	50,033	54,021	56,673	77,226	100,595	54.4%	13.3%	36.3%
Maine	46,872	53,066	53,560	75,475	92,509	61.0%	14.3%	40.9%
Maryland	56,427	68,003	69,282	102,694	126,187	82.0%	22.8%	48.2%
Massachusetts	59,948	68,088	70,539	108,890	136,317	81.6%	17.7%	54.4%
Michigan	47,992	55,532	57,585	86,446	110,790	80.1%	20.0%	50.1%

continued...

Table A4 *(continued)*. Mean earnings by state and education level

STATE	High School	Some College	Associate Degree	Bachelor's Degree	Graduate Degree	% Diff BD–HS	% Diff AD–HS	% Diff BD-AD
Minnesota	$51,597	$59,738	$62,695	$91,856	$124,720	78.0%	21.5%	46.5%
Mississippi	43,735	46,049	49,041	66,225	84,172	51.4%	12.1%	35.0%
Missouri	46,366	52,642	53,905	80,743	100,741	74.1%	16.3%	49.8%
Montana	50,906	49,274	53,950	68,455	98,124	34.5%	6.0%	26.9%
Nebraska	49,744	50,823	54,817	77,968	101,169	56.7%	10.2%	42.2%
Nevada	52,398	60,045	60,366	85,017	106,781	62.3%	15.2%	40.8%
New Hampshire	55,825	63,220	64,635	94,174	122,205	68.7%	15.8%	45.7%
New Jersey	60,715	72,613	72,908	119,789	150,650	97.3%	20.1%	64.3%
New Mexico	44,481	50,121	52,677	69,470	94,280	56.2%	18.4%	31.9%
New York	54,526	65,100	64,806	110,867	139,764	103.3%	18.9%	71.1%
North Carolina	43,924	51,103	52,325	83,363	109,000	89.8%	19.1%	59.3%
North Dakota	57,381	59,807	62,146	71,327	95,625	24.3%	8.3%	14.8%
Ohio	47,836	54,308	56,117	85,332	106,862	78.4%	17.3%	52.1%
Oklahoma	46,779	53,073	55,410	74,250	99,783	58.7%	18.5%	34.0%
Oregon	50,446	57,256	58,876	85,843	105,665	70.2%	16.7%	45.8%
Pennsylvania	50,160	58,021	58,847	89,278	118,747	78.0%	17.3%	51.7%
Rhode Island	57,324	59,783	63,647	93,401	114,966	62.9%	11.0%	46.7%
South Carolina	42,901	50,452	52,637	78,657	94,726	83.3%	22.7%	49.4%
South Dakota	51,574	50,013	54,605	69,053	100,244	33.9%	5.9%	26.5%
Tennessee	44,120	52,691	53,545	81,970	105,154	85.8%	21.4%	53.1%
Texas	49,857	58,525	62,118	93,256	120,725	87.0%	24.6%	50.1%
Utah	52,606	60,017	61,746	88,860	111,545	68.9%	17.4%	43.9%
Vermont	48,667	53,704	59,112	73,750	99,126	51.5%	21.5%	24.8%
Virginia	50,581	60,155	59,643	98,225	122,998	94.2%	17.9%	64.7%
Washington	59,413	67,025	66,135	99,331	120,333	67.2%	11.3%	50.2%
West Virginia	47,145	50,659	52,022	69,652	89,401	47.7%	10.3%	33.9%
Wisconsin	48,848	54,248	58,681	82,623	107,485	69.1%	20.1%	40.8%
Wyoming	60,687	58,233	58,872	73,642	95,004	21.3%	−3.0%	25.1%

Note: Based on the author's calculations from the ACS. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S.

Table A5. Mean earnings by state and education level for workers in their birth state

STATE	High School	Some College	Associate Degree	Bachelor's Degree	Graduate Degree	% Diff AD–HS	% Diff BD-AD
Alabama	$46,192	$49,326	$51,818	$74,280	$86,069	12.2%	43.3%
Alaska	62,213	60,183	57,615	81,664	103,363	−7.4%	41.7%
Arizona	45,776	51,790	52,601	76,831	98,035	14.9%	46.1%
Arkansas	45,352	48,696	49,076	72,667	84,097	8.2%	48.1%
California	53,517	65,480	68,354	100,599	126,019	27.7%	47.2%
Colorado	51,645	56,905	55,717	83,266	99,421	7.9%	49.4%
Connecticut	59,336	66,815	70,073	100,170	119,126	18.1%	43.0%
Delaware	55,634	58,313	61,134	79,625	118,007	9.9%	30.2%
District of Columbia	57,746	57,272	52,956	101,280	109,491	−8.3%	91.3%
Florida	43,172	49,534	51,310	74,807	100,389	18.9%	45.8%
Georgia	43,962	49,901	51,920	80,033	90,653	18.1%	54.1%
Hawaii	50,448	55,716	58,409	76,334	90,510	15.8%	30.7%
Idaho	47,496	51,137	54,882	77,875	99,789	15.6%	41.9%
Illinois	51,872	58,412	61,049	92,799	116,216	17.7%	52.0%
Indiana	48,762	52,865	54,680	76,887	98,201	12.1%	40.6%
Iowa	50,839	53,299	56,217	76,808	102,210	10.6%	36.6%
Kansas	48,141	51,640	54,288	72,794	91,607	12.8%	34.1%
Kentucky	46,644	51,461	54,139	76,362	90,169	16.1%	41.0%
Louisiana	49,928	53,810	55,994	74,024	94,838	12.1%	32.2%
Maine	46,379	51,622	54,540	70,250	86,277	17.6%	28.8%
Maryland	54,370	64,008	63,102	95,002	112,149	16.1%	50.6%
Massachusetts	59,808	67,776	69,987	102,796	125,044	17.0%	46.9%
Michigan	47,874	55,829	57,685	84,427	104,945	20.5%	46.4%
Minnesota	52,245	59,412	63,501	88,477	116,094	21.5%	39.3%
Mississippi	41,881	44,016	47,693	63,201	78,251	13.9%	32.5%
Missouri	46,309	52,034	54,595	78,810	92,068	17.9%	44.4%
Montana	49,745	50,678	54,687	65,475	91,131	9.9%	19.7%
Nebraska	48,771	50,689	55,010	74,957	98,524	12.8%	36.3%
Nevada	50,187	57,411	58,747	81,719	100,439	17.1%	39.1%
New Hampshire	53,781	60,218	64,340	82,448	101,076	19.6%	28.1%
New Jersey	60,012	69,562	70,566	109,889	137,718	17.6%	55.7%
New Mexico	42,512	48,322	51,017	68,469	80,278	20.0%	34.2%
New York	54,628	64,831	64,520	104,072	131,148	18.1%	61.3%
North Carolina	42,228	47,972	50,362	74,456	90,284	19.3%	47.8%
North Dakota	59,779	61,434	63,390	70,666	99,661	6.0%	11.5%
Ohio	47,755	53,445	55,591	82,874	100,698	16.4%	49.1%

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Table A5 *(continued)*. Mean earnings by state and education level for workers in their birth state

STATE	High School	Some College	Associate Degree	Bachelor's Degree	Graduate Degree	% Diff AD–HS	% Diff BD-AD
Oklahoma	$46,615	$50,992	$55,346	$71,423	$96,321	18.7%	29.0%
Oregon	49,720	56,329	58,860	81,955	91,660	18.4%	39.2%
Pennsylvania	49,961	56,695	58,183	85,872	110,545	16.5%	47.6%
Rhode Island	56,745	60,799	64,193	85,130	104,133	13.1%	32.6%
South Carolina	40,599	47,270	49,216	70,051	82,747	21.2%	42.3%
South Dakota	51,788	50,293	54,537	69,398	89,060	5.3%	27.2%
Tennessee	43,636	50,672	51,348	74,881	96,256	17.7%	45.8%
Texas	48,456	56,101	59,776	84,754	108,263	23.4%	41.8%
Utah	52,898	59,797	62,109	88,335	109,912	17.4%	42.2%
Vermont	48,100	52,868	60,709	73,254	90,655	26.2%	20.7%
Virginia	47,654	54,345	55,668	84,166	101,092	16.8%	51.2%
Washington	59,454	65,299	66,416	94,047	106,867	11.7%	41.6%
West Virginia	47,271	49,994	48,761	68,703	88,370	3.2%	40.9%
Wisconsin	49,381	53,838	58,729	80,118	100,063	18.9%	36.4%
Wyoming	53,187	58,069	60,307	75,843	96,752	13.4%	25.8%

Note: Based on the author's calculations from the ACS. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. and reside in their birth state.

Table A6. Median earnings by state and education level

STATE	High School	Some College	Associate Degree	Bachelor's Degree	Graduate Degree	% Diff BD–HS	% Diff AD–HS	% Diff BD-AD
Alabama	$37,170	$42,055	$45,697	$61,877	$71,883	66.5%	22.9%	35.4%
Alaska	56,479	57,348	63,720	73,414	89,145	30.0%	12.8%	15.2%
Arizona	41,076	47,790	49,292	69,030	79,706	68.1%	20.0%	40.0%
Arkansas	36,707	40,902	44,604	57,682	67,121	57.1%	21.5%	29.3%
California	45,666	54,536	59,560	84,960	102,689	86.0%	30.4%	42.6%
Colorado	46,210	51,345	51,345	72,216	85,232	56.3%	11.1%	40.6%
Connecticut	51,345	57,682	62,926	84,960	102,689	65.5%	22.6%	35.0%
Delaware	44,048	49,502	53,100	73,414	83,901	66.7%	20.5%	38.3%
District of Columbia	41,951	53,398	56,286	94,389	106,974	125.0%	34.2%	67.7%
Florida	37,170	43,011	46,728	62,658	78,657	68.6%	25.7%	34.1%
Georgia	38,232	43,542	47,032	68,170	74,462	78.3%	23.0%	44.9%
Hawaii	42,480	50,341	51,389	65,844	78,657	55.0%	21.0%	28.1%
Idaho	41,076	44,179	47,790	60,828	73,936	48.1%	16.3%	27.3%
Illinois	43,130	51,345	53,100	77,017	90,367	78.6%	23.1%	45.0%
Indiana	41,951	45,666	47,790	63,720	75,511	51.9%	13.9%	33.3%

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Table A6 *(continued)*. Median earnings by state and education level

STATE	High School	Some College	Associate Degree	Bachelor's Degree	Graduate Degree	% Diff BD–HS	% Diff AD–HS	% Diff BD-AD
Iowa	$42,480	$46,210	$49,914	$62,926	$76,464	48.1%	17.5%	26.1%
Kansas	41,076	44,156	49,291	63,720	72,216	55.1%	20.0%	29.3%
Kentucky	40,462	42,999	48,453	62,926	66,906	55.5%	19.7%	29.9%
Louisiana	39,022	42,480	47,237	58,410	71,154	49.7%	21.1%	23.7%
Maine	41,076	46,210	47,237	58,731	71,883	43.0%	15.0%	24.3%
Maryland	48,264	57,682	61,877	84,960	102,779	76.0%	28.2%	37.3%
Massachusetts	52,372	57,682	62,926	87,084	100,681	66.3%	20.2%	38.4%
Michigan	41,076	46,210	50,764	69,030	83,898	68.1%	23.6%	36.0%
Minnesota	44,048	49,292	54,425	73,414	88,146	66.7%	23.6%	34.9%
Mississippi	35,658	38,804	42,480	52,038	61,614	45.9%	19.1%	22.5%
Missouri	39,853	42,480	46,728	61,614	71,883	54.6%	17.3%	31.9%
Montana	41,951	41,076	44,048	54,162	67,775	29.1%	5.0%	23.0%
Nebraska	41,951	43,130	47,790	61,596	73,414	46.8%	13.9%	28.9%
Nevada	42,719	48,852	52,438	66,748	78,657	56.3%	22.8%	27.3%
New Hampshire	47,194	52,438	58,410	76,464	88,096	62.0%	23.8%	30.9%
New Jersey	52,438	60,534	62,658	92,291	106,200	76.0%	19.5%	47.3%
New Mexico	36,707	41,076	47,404	56,479	74,340	53.9%	29.1%	19.1%
New York	46,210	52,438	54,528	82,151	95,580	77.8%	18.0%	50.7%
North Carolina	37,170	42,480	45,097	62,926	77,017	69.3%	21.3%	39.5%
North Dakota	43,130	49,292	51,345	57,682	71,883	33.7%	19.0%	12.3%
Ohio	41,951	46,210	49,291	68,170	79,650	62.5%	17.5%	38.3%
Oklahoma	39,022	42,999	49,914	55,452	71,883	42.1%	27.9%	11.1%
Oregon	42,821	48,059	51,345	69,218	82,151	61.6%	19.9%	34.8%
Pennsylvania	42,999	48,777	52,372	71,316	87,084	65.9%	21.8%	36.2%
Rhode Island	48,640	53,100	55,585	73,936	89,145	52.0%	14.3%	33.0%
South Carolina	35,941	41,418	45,097	61,614	66,748	71.4%	25.5%	36.6%
South Dakota	41,076	41,951	46,210	53,100	65,023	29.3%	12.5%	14.9%
Tennessee	37,170	42,480	46,210	61,614	72,216	65.8%	24.3%	33.3%
Texas	40,902	47,237	52,438	69,030	83,901	68.8%	28.2%	31.6%
Utah	44,604	50,764	52,438	71,154	87,286	59.5%	17.6%	35.7%
Vermont	42,480	47,194	52,438	57,682	74,340	35.8%	23.4%	10.0%
Virginia	41,951	50,976	51,345	80,098	102,689	90.9%	22.4%	56.0%
Washington	50,976	54,536	56,633	80,098	90,270	57.1%	11.1%	41.4%
West Virginia	39,294	41,076	44,048	55,452	69,030	41.1%	12.1%	25.9%
Wisconsin	42,480	46,724	52,038	65,721	77,017	54.7%	22.5%	26.3%
Wyoming	51,345	49,291	52,372	58,731	70,958	14.4%	2.0%	12.1%

Note: Based on the author's calculations from the ACS. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S.

Table A7. Mean earnings for high school graduates with and without cost-of-living adjustment

STATE	WITH ADJUSTMENT		WITHOUT ADJUSTMENT	
	Mean	Rank	Mean	Rank
Wyoming	$63,143	1	$60,687	3
North Dakota	63,035	2	57,381	8
Alaska	60,981	3	64,015	1
South Dakota	58,564	4	51,574	21
Rhode Island	57,632	5	57,324	9
Iowa	57,029	6	51,233	22
Washington	56,154	7	59,413	6
Connecticut	55,724	8	60,352	4
Massachusetts	55,575	9	59,948	5
Louisiana	55,381	10	50,033	27
Nebraska	55,309	11	49,744	29
Indiana	54,636	12	49,119	30
Delaware	54,484	13	54,523	14
Utah	54,328	14	52,606	17
Nevada	53,831	15	52,398	18
Montana	53,793	16	50,906	23
Ohio	53,706	17	47,836	35
West Virginia	53,702	18	47,145	38
New Jersey	53,633	19	60,715	2
Alabama	53,437	20	46,347	43
Minnesota	53,013	21	51,597	20
Kentucky	52,943	22	46,683	41
Illinois	52,811	23	52,144	19
New Hampshire	52,736	24	55,825	11
Wisconsin	52,728	25	48,848	32
Colorado	52,676	26	54,117	15
Kansas	52,496	27	47,300	36
Oklahoma	52,386	28	46,779	40
Arkansas	52,088	29	45,296	45
Missouri	51,786	30	46,366	42
Michigan	51,604	31	47,992	34
Maryland	51,546	32	56,427	10
Texas	51,488	33	49,857	28
Pennsylvania	51,077	34	50,160	26
Oregon	50,871	35	50,446	25

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Table A7 *(continued)*. Mean earnings for high school graduates with and without cost-of-living adjustment

STATE	WITH ADJUSTMENT		WITHOUT ADJUSTMENT	
	Mean	Rank	Mean	Rank
Arizona	$50,857	36	$48,925	31
Mississippi	50,765	37	43,735	50
Idaho	50,704	38	47,184	37
District of Columbia	50,018	39	58,119	7
Virginia	49,445	40	50,581	24
Tennessee	48,915	41	44,120	48
Georgia	48,881	42	45,247	46
California	48,225	43	55,158	12
North Carolina	48,178	44	43,924	49
New Mexico	47,593	45	44,481	47
Vermont	47,531	46	48,667	33
South Carolina	47,473	47	42,901	51
Maine	47,457	48	46,872	39
New York	47,047	49	54,526	13
Florida	45,909	50	45,789	44
Hawaii	44,373	51	52,684	16

Note: Cost-of-living adjustment is via the Regional Price Parities produced by the U.S. Bureau of Economic Analysis.

MSA AND NON-MSA COMPARISON TABLES

Table A8. Mean earnings in small metropolitan areas by BEA region and education level

BEA Region	High School	Some College	Associate Degree	Bachelor's Degree	Graduate Degree	% Diff BD–HS	% Diff AD–HS	% Diff BD-AD
New England	$55,770	$59,893	$63,817	$89,260	$113,044	60.1%	14.4%	39.9%
Mideast	50,697	57,498	59,081	81,376	107,025	60.5%	16.5%	37.7%
Great Lakes	48,494	53,294	55,974	78,793	101,662	62.5%	15.4%	40.8%
Plains	50,146	52,562	55,927	71,856	98,954	43.3%	11.5%	28.5%
Southeast	45,159	50,910	52,913	74,577	96,546	65.1%	17.2%	40.9%
Southwest	48,082	52,427	57,200	75,533	98,627	57.1%	19.0%	32.1%
Rocky Mountain	53,003	56,522	56,416	82,881	106,805	56.4%	6.4%	46.9%
Far West	54,913	61,895	64,254	87,235	111,042	58.9%	17.0%	35.8%

Note: Based on the author's calculations from the ACS. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S.

Table A9. Mean earnings in nonmetropolitan areas by BEA region and education level

BEA Region	High School	Some College	Associate Degree	Bachelor's Degree	Graduate Degree	% Diff BD–HS	% Diff AD–HS	% Diff BD-AD
New England	$49,354	$53,672	$57,697	$71,403	$103,054	44.7%	16.9%	23.8%
Mideast	45,893	51,716	52,194	67,225	89,485	46.5%	13.7%	28.8%
Great Lakes	46,773	50,153	54,399	71,240	90,658	52.3%	16.3%	31.0%
Plains	46,176	48,405	51,981	64,834	85,820	40.4%	12.6%	24.7%
Southeast	42,916	45,940	47,364	64,263	80,800	49.7%	10.4%	35.7%
Southwest	48,205	49,871	51,884	64,141	85,488	33.1%	7.6%	23.6%
Rocky Mountain	53,672	54,895	55,208	73,092	97,429	36.2%	2.9%	32.4%
Far West	52,837	57,952	59,706	71,922	93,811	36.1%	13.0%	20.5%

Note: Based on the author's calculations from the ACS. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S.

Table A10. Median earnings by education level and MSA status and size

MSA Status and Size	High School	Some College	Associate Degree	Bachelor's Degree	% Diff AD–HS	% Diff BD–HS
Non-MSA	$39,022	$41,951	$45,666	$53,487	17.0%	37.1%
MSA, population < 0.5M	41,076	45,097	49,292	62,658	20.0%	52.5%
MSA, population 0.5M–1.5M	41,951	46,210	50,976	66,906	21.5%	59.5%
MSA, population 1.5M–4M	42,480	50,446	53,100	74,340	25.0%	75.0%
MSA, population > 4M	45,666	53,100	56,633	83,901	24.0%	83.7%

Note: Based on the author's calculations from the ACS. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. MSA population is as of year 2010 and repotted in millions (M).

Table A11. Mean earnings and college earnings premiums for 104 large MSAs by education level

CITY	High School	Some College	Associate Degree	Bachelor's Degree	Graduate Degree	% Diff BD–HS	% Diff AD–HS	% Diff BD-AD
Akron, OH	$48,387	$56,172	$57,416	$86,995	$106,952	79.8%	18.7%	51.5%
Albany-Schenectady-Troy, NY	53,743	57,433	65,710	92,035	112,693	71.2%	22.3%	40.1%
Albuquerque, NM	41,543	48,950	53,952	73,652	100,394	77.3%	29.9%	36.5%
Allentown-Bethlehem-Easton, PA-NJ	51,647	60,963	61,488	93,611	122,119	81.3%	19.1%	52.2%
Atlanta–Sandy Springs–Roswell, GA	47,261	56,687	58,442	98,402	112,840	108.2%	23.7%	68.4%
Augusta–Richmond County, GA-SC	48,854	48,489	53,274	73,407	95,086	50.3%	9.0%	37.8%
Austin–Round Rock, TX	53,022	62,015	61,025	96,185	121,708	81.4%	15.1%	57.6%
Bakersfield, CA	57,389	60,948	68,143	87,813	103,264	53.0%	18.7%	28.9%
Baltimore-Columbia-Towson, MD	55,577	67,041	67,398	100,491	123,029	80.8%	21.3%	49.1%
Baton Rouge, LA	55,150	57,632	63,115	82,426	101,667	49.5%	14.4%	30.6%
Birmingham-Hoover, AL	48,554	51,541	54,833	85,871	106,185	76.9%	12.9%	56.6%
Boise City, ID	45,004	53,124	59,897	82,784	103,271	83.9%	33.1%	38.2%
Boston-Cambridge-Newton, MA-NH	61,395	71,585	72,579	114,266	143,248	86.1%	18.2%	57.4%
Bridgeport-Stamford-Norwalk, CT	65,463	79,213	83,495	166,463	200,320	154.3%	27.5%	99.4%
Buffalo–Cheektowaga–Niagara Falls, NY	49,856	55,835	58,242	80,859	95,847	62.2%	16.8%	38.8%
Cape Coral–Fort Myers, FL	45,562	53,191	53,533	76,920	104,542	68.8%	17.5%	43.7%
Charleston–North Charleston, SC	47,268	53,890	50,760	82,319	106,868	74.2%	7.4%	62.2%
Charlotte-Concord-Gastonia, NC-SC	47,335	54,266	57,470	94,265	124,662	99.1%	21.4%	64.0%

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Table A11 *(continued)*. Mean earnings and college earnings premiums for 104 large MSAs by education level

CITY	High School	Some College	Associate Degree	Bachelor's Degree	Graduate Degree	% Diff BD–HS	% Diff AD–HS	% Diff BD-AD
Chattanooga, TN-GA	$46,052	$52,247	$51,160	$84,163	$108,661	82.8%	11.1%	64.5%
Chicago-Naperville-Elgin, IL-IN-WI	54,967	63,657	65,995	104,318	133,364	89.8%	20.1%	58.1%
Cincinnati, OH-KY-IN	49,155	59,229	61,108	93,135	119,838	89.5%	24.3%	52.4%
Cleveland-Elyria, OH	48,707	53,018	55,387	85,953	114,715	76.5%	13.7%	55.2%
Colorado Springs, CO	50,751	55,743	53,167	75,857	102,381	49.5%	4.8%	42.7%
Columbia, SC	42,086	47,869	57,356	77,529	93,972	84.2%	36.3%	35.2%
Columbus, OH	48,117	57,647	57,483	92,506	112,478	92.3%	19.5%	60.9%
Dallas–Fort Worth–Arlington, TX	51,997	62,041	64,726	99,958	128,281	92.2%	24.5%	54.4%
Dayton, OH	46,761	53,219	53,096	78,592	95,725	68.1%	13.5%	48.0%
Deltona–Daytona Beach–Ormond Beach, FL	44,954	47,806	52,009	72,002	97,244	60.2%	15.7%	38.4%
Denver-Aurora-Lakewood, CO	56,722	65,313	64,408	101,112	119,936	78.3%	13.5%	57.0%
Des Moines–West Des Moines, IA	52,325	55,441	60,548	87,434	118,770	67.1%	15.7%	44.4%
Detroit-Warren-Dearborn, MI	50,605	58,304	60,892	96,452	118,122	90.6%	20.3%	58.4%
Durham–Chapel Hill, NC	44,632	53,753	59,375	86,117	117,466	92.9%	33.0%	45.0%
El Paso, TX	41,303	48,806	49,657	62,421	88,378	51.1%	20.2%	25.7%
Fresno, CA	51,556	58,361	60,345	88,811	115,049	72.3%	17.0%	47.2%
Grand Rapids–Wyoming, MI	48,218	56,896	60,013	82,682	111,612	71.5%	24.5%	37.8%
Greensboro–High Point, NC	42,668	49,199	49,683	77,743	106,373	82.2%	16.4%	56.5%
Greenville-Anderson-Mauldin, SC	43,425	53,673	53,316	80,770	96,086	86.0%	22.8%	51.5%
Harrisburg-Carlisle, PA	45,435	56,011	63,198	89,338	104,331	96.6%	39.1%	41.4%
Hartford–W. Hartford–E. Hartford, CT	61,811	68,481	70,697	103,515	132,019	67.5%	14.4%	46.4%
Houston–Woodlands–Sugar Land, TX	52,212	64,947	69,481	107,888	139,118	106.6%	33.1%	55.3%
Indianapolis-Carmel-Anderson, IN	49,287	56,131	56,338	87,074	114,031	76.7%	14.3%	54.6%
Jackson, MS	45,275	46,534	47,380	71,618	91,001	58.2%	4.6%	51.2%
Jacksonville, FL	46,919	56,715	53,539	85,875	110,790	83.0%	14.1%	60.4%
Kansas City, MO-KS	48,697	56,579	59,078	88,119	107,869	81.0%	21.3%	49.2%
Knoxville, TN	44,462	53,394	53,608	77,612	101,961	74.6%	20.6%	44.8%
Lakeland–Winter Haven, FL	42,891	51,236	55,294	66,570	83,725	55.2%	28.9%	20.4%
Lancaster, PA	53,892	58,812	63,805	86,678	102,097	60.8%	18.4%	35.8%
Las Vegas–Henderson–Paradise, NV	51,909	60,034	59,724	86,175	106,155	66.0%	15.1%	44.3%

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Table A11 *(continued)*. Mean earnings and college earnings premiums for 104 large MSAs by education level

CITY	High School	Some College	Associate Degree	Bachelor's Degree	Graduate Degree	% Diff BD–HS	% Diff AD–HS	% Diff BD-AD
Little Rock–North Little Rock–Conway, AR	$46,846	$50,744	$55,095	$77,994	$100,956	66.5%	17.6%	41.6%
Los Angeles–Long Beach–Anaheim, CA	52,756	68,984	69,409	109,737	139,707	108.0%	31.6%	58.1%
Louisville/Jefferson County, KY-IN	50,153	55,252	57,378	82,461	107,421	64.4%	14.4%	43.7%
Madison, WI	51,685	50,312	63,178	86,262	121,606	66.9%	22.2%	36.5%
McAllen-Edinburg-Mission, TX	44,506	47,496	53,640	68,215	83,821	53.3%	20.5%	27.2%
Memphis, TN-MS-AR	44,459	51,266	53,746	83,217	106,217	87.2%	20.9%	54.8%
Miami–Fort Lauderdale–West Palm Beach, FL	46,637	58,954	59,885	93,054	125,724	99.5%	28.4%	55.4%
Milwaukee–Waukesha–West Allis, WI	48,578	60,695	61,491	89,044	114,377	83.3%	26.6%	44.8%
Minneapolis–St. Paul–Bloomington, MN-WI	53,502	63,918	65,715	98,244	129,011	83.6%	22.8%	49.5%
Modesto, CA	55,857	63,211	67,343	80,572	114,299	44.2%	20.6%	19.6%
Nashville-Davidson–Murfreesboro–Franklin, TN	47,250	56,518	57,836	89,091	115,225	88.6%	22.4%	54.0%
New Haven–Milford, CT	56,710	65,197	67,040	90,709	123,387	60.0%	18.2%	35.3%
New Orleans–Metairie, LA	46,681	53,450	58,230	81,635	108,281	74.9%	24.7%	40.2%
New York–Newark–Jersey City, NY-NJ-PA	61,084	74,855	73,617	125,123	156,396	104.8%	20.5%	70.0%
North Port–Sarasota–Bradenton, FL	45,324	56,860	54,750	84,686	103,036	86.8%	20.8%	54.7%
Ogden-Clearfield, UT	51,518	59,748	61,942	87,460	104,481	69.8%	20.2%	41.2%
Oklahoma City, OK	47,176	55,443	54,473	79,860	104,792	69.3%	15.5%	46.6%
Omaha–Council Bluffs, NE-IA	52,374	53,549	57,299	84,231	103,956	60.8%	9.4%	47.0%
Orlando-Kissimmee-Sanford, FL	45,914	54,610	53,330	86,453	106,020	88.3%	16.2%	62.1%
Oxnard–Thousand Oaks–Ventura, CA	61,151	72,989	73,251	111,813	138,874	82.8%	19.8%	52.6%
Palm Bay–Melbourne–Titusville, FL	44,593	50,508	48,630	82,657	111,492	85.4%	9.1%	70.0%
Philadelphia-Camden-Wilmington, PA-NJ-DE-MD	55,021	64,001	66,438	102,527	131,637	86.3%	20.7%	54.3%
Phoenix-Mesa-Scottsdale, AZ	50,863	59,744	59,511	91,939	111,589	80.8%	17.0%	54.5%
Pittsburgh, PA	50,642	57,404	57,081	84,359	119,915	66.6%	12.7%	47.8%
Portland–South Portland, ME	48,548	60,901	54,498	85,333	95,104	75.8%	12.3%	56.6%
Portland-Vancouver-Hillsboro, OR-WA	54,538	63,094	63,580	94,373	109,278	73.0%	16.6%	48.4%
Providence-Warwick, RI-MA	57,427	62,910	64,309	92,653	115,440	61.3%	12.0%	44.1%

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Table A11 *(continued)*. Mean earnings and college earnings premiums for 104 large MSAs by education level

CITY	High School	Some College	Associate Degree	Bachelor's Degree	Graduate Degree	% Diff BD–HS	% Diff AD–HS	% Diff BD-AD
Provo-Orem, UT	$59,599	$62,918	$62,245	$94,356	$111,942	58.3%	4.4%	51.6%
Raleigh, NC	49,533	57,043	58,664	93,998	111,246	89.8%	18.4%	60.2%
Richmond, VA	51,138	59,096	57,485	87,790	106,792	71.7%	12.4%	52.7%
Riverside–San Bernardino–Ontario, CA	53,474	62,443	67,481	86,446	104,647	61.7%	26.2%	28.1%
Rochester, NY	49,730	52,215	58,251	84,550	102,439	70.0%	17.1%	45.1%
Sacramento–Roseville–Arden-Arcade, CA	55,751	64,714	71,635	94,453	119,240	69.4%	28.5%	31.9%
Salt Lake City, UT	50,882	60,524	65,541	87,218	112,522	71.4%	28.8%	33.1%
San Antonio–New Braunfels, TX	42,436	53,814	57,192	77,917	102,429	83.6%	34.8%	36.2%
San Diego–Carlsbad, CA	55,129	64,154	64,892	100,235	127,841	81.8%	17.7%	54.5%
San Francisco–Oakland–Hayward, CA	62,658	80,113	80,656	131,990	169,134	110.7%	28.7%	63.6%
San Jose–Sunnyvale–Santa Clara, CA	60,676	90,153	89,871	141,276	178,919	132.8%	48.1%	57.2%
Scranton–Wilkes-Barre–Hazleton, PA	47,844	52,275	57,880	73,600	96,484	53.8%	21.0%	27.2%
Seattle-Tacoma-Bellevue, WA	63,870	73,988	72,280	108,303	132,641	69.6%	13.2%	49.8%
Spokane–Spokane Valley, WA	49,629	54,927	51,176	74,896	103,973	50.9%	3.1%	46.3%
Springfield, MA	55,502	60,145	67,191	83,344	98,180	50.2%	21.1%	24.0%
St. Louis, MO-IL	48,855	55,802	57,809	91,063	109,861	86.4%	18.3%	57.5%
Stockton-Lodi, CA	58,738	65,935	72,368	92,177	106,371	56.9%	23.2%	27.4%
Syracuse, NY	49,917	55,305	58,158	82,208	103,477	64.7%	16.5%	41.4%
Tampa–St. Petersburg–Clearwater, FL	47,133	57,007	57,667	84,920	113,120	80.2%	22.3%	47.3%
Toledo, OH	50,347	53,667	58,093	84,387	100,014	67.6%	15.4%	45.3%
Tucson, AZ	44,662	54,527	53,141	77,554	102,773	73.6%	19.0%	45.9%
Tulsa, OK	49,501	55,952	59,812	81,186	106,601	64.0%	20.8%	35.7%
Urban Honolulu, HI	55,476	59,997	60,880	84,405	104,188	52.1%	9.7%	38.6%
Virginia Beach–Norfolk–Newport News, VA-NC	48,645	55,510	58,068	77,327	100,375	59.0%	19.4%	33.2%
Washington-Arlington-Alexandria, DC-VA-MD-WV	62,034	73,927	74,653	116,815	137,467	88.3%	20.3%	56.5%
Wichita, KS	46,410	51,011	53,635	78,933	92,764	70.1%	15.6%	47.2%
Winston-Salem, NC	43,933	48,558	54,769	79,698	112,900	81.4%	24.7%	45.5%
Worcester, MA-CT	57,914	64,985	67,401	100,836	115,141	74.1%	16.4%	49.6%
Youngstown-Warren-Boardman, OH-PA	45,078	47,700	52,683	73,975	88,137	64.1%	16.9%	40.4%

Note: Based on the author's calculations from the ACS. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. Large MSAs are restricted to those with year 2010 population greater than 500,000.

TUITION TABLE

Table A12. Mean resident tuition and fees by state at two- and four-year public colleges and universities, 2018–19

STATE	Two-year Colleges	Four-year Colleges and Universities
Alabama	$4,760	$10,870
Alaska	N/A	7,820
Arizona	2,580	11,540
Arkansas	3,700	8,710
California	1,430	9,870
Colorado	4,510	11,140
Connecticut	4,400	12,760
Delaware	4,850	12,700
District of Columbia	N/A	8,250
Florida	3,250	6,360
Georgia	3,810	8,580
Hawaii	3,920	10,800
Idaho	4,190	7,590
Illinois	4,140	13,970
Indiana	4,710	9,490
Iowa	5,320	9,080
Kansas	3,130	9,100
Kentucky	5,310	10,710
Louisiana	4,190	9,550
Maine	3,750	10,230
Maryland	4,680	9,900
Massachusetts	6,300	13,200
Michigan	3,860	13,420
Minnesota	5,440	11,540
Mississippi	3,190	8,420
Missouri	3,580	8,670
Montana	$3,730	$7,100
Nebraska	3,180	8,510
Nevada	3,400	7,660
New Hampshire	7,090	16,460
New Jersey	5,040	14,180
New Mexico	1,840	7,130
New York	5,490	8,190
North Carolina	2,470	7,220
North Dakota	4,830	8,660
Ohio	4,720	10,790
Oklahoma	4,380	8,750
Oregon	5,310	10,610
Pennsylvania	5,480	14,770
Rhode Island	4,560	12,530
South Carolina	5,640	12,950
South Dakota	6,700	8,690
Tennessee	4,560	9,950
Texas	2,620	10,300
Utah	3,810	6,990
Vermont	8,190	16,610
Virginia	5,260	13,490
Washington	4,440	9,760
West Virginia	4,320	8,290
Wisconsin	4,550	9,080
Wyoming	3,240	5,400
United States	**3,660**	**10,230**

Note: Tuition and fee rates are for in-state residents attending four-year colleges and universities and for in-district residents attending two-year colleges. Jennifer Ma, Sandy Baum, Matea Pender, and CJ Libassi, Trends in College Pricing 2018 *(New York, NY: The College Board, 2018).*

Appendix B: College Earnings Premiums By Race

Table B1 reports selected mean earnings and CEPs by state and for each of the largest racial/ethnic groups.

For black workers, one key point merits attention. First, although they experience considerable variation in the CEPs across states, the earnings premiums for black workers with bachelor's degrees (compared to those with high school diplomas) are often much smaller than for white workers. An extreme example is Connecticut, where the bachelor's to high school earnings premium is only 18.2 percent for black workers compared to 97.0 percent for white workers.[30] The bachelor's degree premium for black workers is also much lower than for white workers in New York, Georgia, Virginia, Illinois, California, and several other states.

Hispanic workers also exhibit distinctive differences in CEPs across the twenty states for which sample size was sufficient to produce reliable estimates. For example, the bachelor's to high school earnings premium for Hispanic workers is smaller than the premium for white workers but larger than the premium for black workers in several states, including California, Connecticut, Georgia, Illinois, New York, and Virginia. Interestingly, the bachelor's to high school earnings premium for Hispanic workers exceeds that for white workers in Florida and Michigan. Indiana, on the other hand, stands out for having an especially low bachelor's to high school earnings premium for Hispanic workers of only 26.3 percent.

Table B1. The bachelor's premium over a high school diploma is greatest in New Jersey for black workers, Virginia for Hispanic workers, and New York for white workers.

STATE	Asian Bachelor's Degree Premium		Black Bachelor's Degree Premium		Hispanic Bachelor's Degree Premium		White Bachelor's Degree Premium	
	Relative to High School	Relative to Associate	Relative to High School	Relative to Associate	Relative to High School	Relative to Associate	Relative to High School	Relative to Associate
New York	-	-	54.1%	30.8%	73.2%	34.3%	106.0%	76.6%
Georgia	-	-	66.3%	40.1%	76.6%	56.6%	102.9%	67.7%
Virginia	-	-	72.5%	46.3%	85.3%	42.8%	93.0%	66.0%
New Jersey	-	-	88.5%	46.6%	70.0%	31.3%	91.6%	64.3%
Connecticut	-	-	18.2%	24.7%	66.9%	40.3%	97.0%	63.5%
Illinois	-	-	53.2%	24.5%	70.5%	40.5%	89.1%	60.3%
North Carolina	-	-	58.1%	39.8%	-	-	91.2%	59.9%
California	95.7%	52.3%	68.7%	39.1%	78.1%	37.0%	85.6%	54.2%
Massachusetts	-	-	-	-	79.7%	41.5%	80.3%	54.2%
Tennessee	-	-	57.3%	34.4%	-	-	87.5%	53.7%
Maryland	-	-	60.9%	29.0%	-	-	84.7%	52.6%

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Table B1 *(continued)*. The bachelor's premium over a high school diploma is greatest in New Jersey for black workers, Virginia for Hispanic workers, and New York for white workers.

STATE	Asian Bachelor's Degree Premium		Black Bachelor's Degree Premium		Hispanic Bachelor's Degree Premium		White Bachelor's Degree Premium	
	Relative to High School	Relative to Associate	Relative to High School	Relative to Associate	Relative to High School	Relative to Associate	Relative to High School	Relative to Associate
Colorado	-	-	63.7%	55.6%	54.9%	33.0%	66.5%	52.4%
Arkansas	-	-	49.8%	17.7%	-	-	64.1%	52.2%
Pennsylvania	-	-	44.9%	29.7%	57.6%	46.9%	79.5%	52.0%
Florida	-	-	75.8%	46.9%	85.2%	40.3%	78.9%	51.8%
Washington	-	-	38.8%	25.4%	62.0%	34.4%	67.8%	50.6%
Arizona	-	-	61.6%	55.0%	73.5%	35.8%	72.8%	50.2%
Kansas	-	-	-	-	-	-	74.2%	50.1%
Ohio	-	-	61.2%	47.7%	58.5%	54.6%	78.8%	50.1%
Missouri	-	-	56.4%	29.0%	-	-	75.3%	49.8%
Michigan	-	-	59.7%	45.9%	84.7%	56.4%	80.1%	49.2%
Texas	-	-	68.3%	35.5%	61.9%	28.8%	78.0%	49.2%
Kentucky	-	-	55.8%	29.9%	-	-	72.9%	48.1%
Rhode Island	-	-	-	-	-	-	61.2%	46.9%
Hawaii	49.7%	25.1%	-	-	-	-	48.0%	46.7%
Indiana	-	-	48.8%	22.3%	26.3%	17.3%	65.7%	46.6%
Minnesota	-	-	-	-	-	-	77.4%	46.3%
South Carolina	-	-	50.4%	31.1%	-	-	75.1%	46.3%
Alabama	-	-	49.9%	27.7%	-	-	65.2%	46.3%
Oregon	-	-	-	-	75.5%	24.8%	68.6%	45.0%
New Hampshire	-	-	-	-	-	-	67.2%	44.2%
Utah	-	-	-	-	-	-	67.1%	42.4%
Nebraska	-	-	-	-	-	-	56.4%	42.2%
Maine	-	-	-	-	-	-	62.4%	41.0%
Wisconsin	-	-	-	-	-	-	67.8%	40.9%
Delaware	-	-	-	-	-	-	63.6%	40.4%
Idaho	-	-	-	-	-	-	66.5%	40.2%
Nevada	-	-	-	-	55.6%	27.3%	61.4%	39.5%
Iowa	-	-	-	-	-	-	50.8%	38.3%

continued...

Table B1 *(continued)*. The bachelor's premium over a high school diploma is greatest in New Jersey for black workers, Virginia for Hispanic workers, and New York for white workers.

STATE	Asian Bachelor's Degree Premium		Black Bachelor's Degree Premium		Hispanic Bachelor's Degree Premium		White Bachelor's Degree Premium	
	Relative to High School	Relative to Associate	Relative to High School	Relative to Associate	Relative to High School	Relative to Associate	Relative to High School	Relative to Associate
Oklahoma	-	-	34.6%	9.8%	-	-	59.1%	36.8%
Louisiana	-	-	50.6%	23.3%	-	-	45.4%	35.3%
West Virginia	-	-	-	-	-	-	49.4%	34.6%
Mississippi	-	-	34.0%	24.7%	-	-	44.5%	32.1%
South Dakota	-	-	-	-	-	-	34.5%	28.8%
New Mexico	-	-	-	-	53.1%	29.5%	43.4%	27.1%
Montana	-	-	-	-	-	-	35.8%	26.7%
Vermont	-	-	-	-	-	-	53.3%	25.9%
Wyoming	-	-	-	-	-	-	21.1%	25.7%
Alaska	-	-	-	-	-	-	20.2%	18.3%
North Dakota	-	-	-	-	-	-	22.2%	13.9%

Note: Based on the author's calculations from the ACS. The table is sorted by the bachelor's versus associate degree premium for the largest group, white workers (last column). Cells are blue if the bachelor's degree premium is greater than 75 percent over the high school diploma premium or greater than 50 percent over the associate degree premium; yellow if the bachelor's degree premium is less than 75 percent but more than 50 percent over the high school diploma premium or less than 50 percent but more than 35 percent over the associate degree premium; and red if the bachelor's degree premium is less than 50 percent over the high school diploma premium or less than 35 percent over the associate degree premium. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The analysis by race/ethnicity is restricted to those jurisdictions with at least ninety workers in the analytical sample by state and race/ethnicity for each of the three analyzed education groups (high school graduates, workers with associate degrees, and workers with bachelor's degrees).

Tables B2-B5 show college earnings and CEPs for workers by state and race. The analysis by race/ethnicity is restricted to those jurisdictions with at least ninety workers in the sample by both state and race/ethnicity for each of the three analyzed education groups (high school graduates, workers with associate degrees, and workers with bachelor's degrees.

Table B2. College earnings premiums by state for white workers

STATE	High School	Associate Degree	Bachelor's Degree	% Diff Associate–High School	% Diff Bachelor's–High School
New York	$56,827	$66,311	$117,087	16.7%	106.0%
Georgia	49,669	60,078	100,772	21.0%	102.9%
Connecticut	62,473	75,272	123,081	20.5%	97.0%
Virginia	53,333	62,019	102,947	16.3%	93.0%
New Jersey	65,989	76,982	126,466	16.7%	91.6%
North Carolina	46,559	55,667	88,999	19.6%	91.2%
Illinois	54,703	64,560	103,463	18.0%	89.1%
Tennessee	45,767	55,830	85,793	22.0%	87.5%
California	64,734	77,921	120,118	20.4%	85.6%
Maryland	60,426	73,123	111,584	21.0%	84.7%
Massachusetts	61,543	71,985	110,968	17.0%	80.3%
Michigan	49,347	59,573	88,895	20.7%	80.1%
Pennsylvania	50,772	59,962	91,131	18.1%	79.5%
Florida	49,551	58,387	88,628	17.8%	78.9%
Ohio	48,901	58,268	87,457	19.2%	78.8%
Texas	57,876	69,065	103,044	19.3%	78.0%
Minnesota	52,317	63,436	92,816	21.3%	77.4%
Missouri	47,178	55,219	82,696	17.0%	75.3%
South Carolina	47,778	57,178	83,653	19.7%	75.1%
Kansas	48,296	56,051	84,145	16.1%	74.2%
Kentucky	47,310	55,224	81,808	16.7%	72.9%
Arizona	53,701	61,777	92,819	15.0%	72.8%
Oregon	51,395	59,747	86,627	16.3%	68.6%
Wisconsin	49,803	59,303	83,583	19.1%	67.8%
Washington	60,569	67,472	101,611	11.4%	67.8%
New Hampshire	55,927	64,834	93,515	15.9%	67.2%
Utah	53,541	62,828	89,460	17.3%	67.1%

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Table B2 *(continued)*. College earnings premiums by state for white workers

STATE	High School	Associate Degree	Bachelor's Degree	% Diff Associate–High School	% Diff Bachelor's–High School
Colorado	57,136	62,408	95,132	9.2%	66.5%
Idaho	$48,073	$57,089	$80,036	18.8%	66.5%
Indiana	50,013	56,513	82,849	13.0%	65.7%
Alabama	50,132	56,610	82,804	12.9%	65.2%
Arkansas	47,924	51,673	78,630	7.8%	64.1%
Delaware	57,191	66,632	93,571	16.5%	63.6%
Maine	46,629	53,679	75,707	15.1%	62.4%
Nevada	55,653	64,406	89,830	15.7%	61.4%
Rhode Island	58,355	64,039	94,059	9.7%	61.2%
Oklahoma	48,741	56,686	77,572	16.3%	59.1%
Nebraska	50,391	55,424	78,834	10.0%	56.4%
Vermont	48,806	59,422	74,817	21.8%	53.3%
Iowa	51,628	56,314	77,879	9.1%	50.8%
West Virginia	47,213	52,397	70,514	11.0%	49.4%
Hawaii	62,397	62,936	92,346	0.9%	48.0%
Louisiana	57,534	61,830	83,648	7.5%	45.4%
Mississippi	50,729	55,483	73,305	9.4%	44.5%
New Mexico	51,946	58,618	74,492	12.8%	43.4%
Montana	51,266	54,916	69,603	7.1%	35.8%
South Dakota	52,417	54,722	70,491	4.4%	34.5%
North Dakota	59,072	63,406	72,197	7.3%	22.2%
Wyoming	61,771	59,514	74,824	−3.7%	21.1%
Alaska	70,195	71,350	84,377	1.6%	20.2%

Note: Based on the author's calculations from the ACS. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The analysis by race/ethnicity is restricted to those jurisdictions with at least ninety workers in the analytical sample by state and race/ethnicity for each of the three analyzed education groups (high school graduates, workers with associate degrees, and workers with bachelor's degrees).

Table B3. College earnings premiums for black workers in selected states

STATE	High School	Associate Degree	Bachelor's Degree	% Diff Associate–High School	% Diff Bachelor's–High School
New Jersey	$45,523	$58,528	$85,825	28.6%	88.5%
Florida	35,807	42,838	62,941	19.6%	75.8%
Virginia	42,811	50,469	73,844	17.9%	72.5%
California	47,273	57,328	79,727	21.3%	68.7%
Texas	40,074	49,768	67,446	24.2%	68.3%
Georgia	38,544	45,741	64,094	18.7%	66.3%
Colorado	44,033	46,316	72,063	5.2%	63.7%
Arizona	41,908	43,698	67,715	4.3%	61.6%
Ohio	38,668	42,180	62,316	9.1%	61.2%
Maryland	50,557	63,079	81,370	24.8%	60.9%
Michigan	39,799	43,570	63,566	9.5%	59.7%
North Carolina	37,045	41,913	58,578	13.1%	58.1%
Tennessee	37,499	43,880	58,996	17.0%	57.3%
Missouri	38,863	47,099	60,780	21.2%	56.4%
Kentucky	39,224	47,064	61,129	20.0%	55.8%
New York	46,340	54,585	71,420	17.8%	54.1%
Illinois	44,000	54,124	67,406	23.0%	53.2%
Louisiana	36,169	44,163	54,472	22.1%	50.6%
South Carolina	35,384	40,603	53,225	14.7%	50.4%
Alabama	37,930	44,519	56,851	17.4%	49.9%
Arkansas	34,702	44,171	51,969	27.3%	49.8%
Indiana	39,616	48,180	58,933	21.6%	48.8%
Pennsylvania	45,413	50,755	65,824	11.8%	44.9%
Washington	54,172	59,984	75,209	10.7%	38.8%
Oklahoma	37,020	45,393	49,831	22.6%	34.6%
Mississippi	35,270	37,916	47,266	7.5%	34.0%
Connecticut	53,250	50,453	62,924	−5.3%	18.2%

Note: Based on the author's calculations from the ACS. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The analysis by race/ethnicity is restricted to those jurisdictions with at least ninety workers in the analytical sample by state and race/ethnicity for each of the three analyzed education groups (high school graduates, workers with associate degrees, and workers with bachelor's degrees).

Table B4. College earnings premiums for Hispanic workers in selected states

STATE	High School	Associate Degree	Bachelor's Degree	% Diff Associate–High School	% Diff Bachelor's–High School
Virginia	$48,957	$63,529	$90,723	29.8%	85.3%
Florida	39,959	52,756	73,994	32.0%	85.2%
Michigan	44,035	51,994	81,342	18.1%	84.7%
Massachusetts	46,921	59,587	84,304	27.0%	79.7%
California	46,220	60,115	82,335	30.1%	78.1%
Georgia	44,585	50,285	78,748	12.8%	76.6%
Oregon	40,237	56,550	70,598	40.5%	75.5%
Arizona	40,408	51,622	70,103	27.8%	73.5%
New York	48,877	63,045	84,643	29.0%	73.2%
Illinois	44,961	54,548	76,654	21.3%	70.5%
New Jersey	52,681	68,209	89,554	29.5%	70.0%
Connecticut	51,001	60,707	85,145	19.0%	66.9%
Washington	49,849	60,092	80,771	20.5%	62.0%
Texas	42,941	53,962	69,518	25.7%	61.9%
Ohio	45,157	46,309	71,573	2.6%	58.5%
Pennsylvania	45,450	48,770	71,651	7.3%	57.6%
Nevada	45,801	55,993	71,276	22.3%	55.6%
Colorado	45,388	52,830	70,291	16.4%	54.9%
New Mexico	41,379	48,935	63,358	18.3%	53.1%
Indiana	47,634	51,300	60,177	7.7%	26.3%

Note: Based on the author's calculations from the ACS. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The analysis by race/ethnicity is restricted to those jurisdictions with at least ninety workers in the analytical sample by state and race/ethnicity for each of the three analyzed education groups (high school graduates, workers with associate degrees, and workers with bachelor's degrees).

Table B5. College earnings premiums for Asian workers in selected states

STATE	High School	Associate Degree	Bachelor's Degree	% Diff Associate–High School	% Diff Bachelor's–High School
California	$50,091	$64,392	$98,044	28.5%	95.7%
Hawaii	48,739	58,335	72,985	19.7%	49.7%

Note: Based on the author's calculations from the ACS. The sample is limited to full-time, full-year workers, ages thirty to fifty-nine, who were born in the U.S. The analysis by race/ethnicity is restricted to those jurisdictions with at least ninety workers in the analytical sample by state and race/ethnicity for each of the three analyzed education groups (high school graduates, workers with associate degrees, and workers with bachelor's degrees).

Appendix C: Geographical Areas in the ACS

Individuals are linked to metropolitan areas and nonmetropolitan areas based on geography defined by the U.S. Census Bureau. A metropolitan area consists of a core urban area of at least fifty thousand people and the surrounding counties that are economically integrated with the urban core based on commuting flows between places of work and residence. Counties that are not part of a metropolitan area are considered nonmetropolitan.

Individual-level data from the American Community Survey (ACS) do not precisely identify the substate location for some workers. The smallest identifiable geographic areas available in the ACS data are called Public Use Microdata Areas (PUMAs). PUMAs are required to have a population of at least one hundred thousand in order to help protect survey respondent confidentiality. PUMAs can be a single county, group of adjacent counties, or subcounty area. Most PUMAs can be perfectly assigned to an MSA or non-MSA, but not all PUMAs are wholly within a single MSA or non-MSA. Some PUMAs include both areas that belong to an MSA and nonmetropolitan areas. A few PUMAs include parts of two or more MSAs. These mixed PUMAs were constructed as such by the U.S. Census Bureau to achieve the population requirement of one hundred thousand.

Each PUMA is assigned to an MSA if the majority of the PUMA population is within that MSA. The remaining PUMAs are classified as non-MSA if they are wholly non-MSA. PUMAs that are partially within an MSA but have less than half of their population in a single MSA are excluded from the substate analysis. Large MSAs typically include multiple PUMAs, but smaller MSAs often consist of a single PUMA.